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Southwest Fisheries Center

Sampling Manual

for collection of biological data from U.S. purse seiners fishing in the South Pacific

ADMINISTRATIVE REPORT
LJ-90-02

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SAMPLING MANUAL FOR COLLECTION OF BIOLOGICAL DATA FROM U.S. PURSE SEINERS FISHING IN THE SOUTH PACIFIC

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This Administrative Report is issued as an informal document to ensure prompt dissemination of preliminary results, interim reports and special studies. We recommend that it not be abstracted or cited.

PREFACE

This manual was developed for the first year of sampling (June 1988 to June 1989) and was modified after one year of testing forms and procedures. The manual has been assembled in sections, with each section numbered and dated to allow for expansion, modification, addition or deletion as required in the future. The manual has been placed in a loose-leaf binder to allow easy substitution of pages. Recipients will be sent replacement pages whenever changes are made.

Some of the forms and examples included in this manual are modified forms developed by other organizations. We would like to thank the Inter-American Tropical Tuna Commission for the use of material in "Procedures for Collection and Handling of Tuna Fishery Data by Field Station Personnel", edited by E. Everett, M.G. Hinton, W.H. Bayliff and N. Clark, and the International Commission for the Conservation of Atlantic Tunas for use of material in "Field Manual for Statistics and Sampling Atlantic Tunas and Tuna-Like Fishes".

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I. INTRODUCTION

On June 15, 1988, the United States Congress ratified a five-year Tuna Treaty with 16 South Pacific Island Countries[1]. The Treaty allows U.S. purse seiners to fish in the 200-mile economic zones of these countries in exchange for fees, economic aid and fishery data. The U.S. is required to provide fishery data in five categories, 1) logbooks, 2) unloading weights, 3) length frequency, 4) species composition and 5) miscellaneous biological data. Currently, category 5 includes only tag return data (Coan et al 1988). The purpose of this manual is to describe the procedures and forms for obtaining size and species composition samples and miscellaneous biological data from the catches of U.S. purse seiners fishing in the Treaty area (Figure 1).

Collection of length-frequency and species composition from landed catches requires strict adherence to procedures to ensure that the collection is uniform and not biased. Those procedures include: 1) logbook abstracting, 2) planning for sampling, 3) collection of length frequencies, 4) collection of species composition and 5) collection of unloading weights. Procedures 3 and 4 can vary depending on whether the catches are sorted by size groups or are mixed during unloading.

Two types of unloadings are sampled, direct unloadings by purse seiners at canneries and transshipments. All five procedures must be followed when sampling catches directly from purse seiners unloading at the cannery docks. Only procedures 3 to 5 are used to sample transshipped catches. Since the entire load of a catcher vessel is mixed in transshipments, one sample of each species unloaded from the transshipment vessel is required for size frequency. Species composition samples are taken as needed and if fish are unloaded by size groups, each size group is sampled.

Measurements of fish are made with calipers on meter sticks (Figure 2, ICCAT 1978). Fish are measured for fork-length (FL, Figure 3) whenever possible. Predorsal lengths (PD, Figure 3) can be substituted for fork-length measurements if fish are too large to handle. The type of length measurement must always be noted on the sampling sheets.

[1]Australia, Cook Island, Federated States of Micronesia, Fiji, Kiribati, Marshall Island, Nauru, New Zealand, Niue, Palau, Papua New Guinea, Soloman Island, Tonga, Tuvalu, Vanuatu, Western Samoa.

Entries on all forms must be printed legibly. If no information is available, leave the space blank. Entries for dates are month/day/year order unless specified differently. The original forms, except those required by the Forum Fisheries Agency, should be sent to the processing center, the Southwest Fisheries Center, La Jolla, California. A clear copy of all forms mailed to the Center must be kept at the field station in case the original is lost in the mail.

LITERATURE CITED

Coan, A.L., N. Bartoo and G. Sakagawa. 1988. **Plan for collection of fisheries data from U.S. tuna purse seiners fishing in the south Pacific**. SWFC Administrative Report LJ-88-19. 19p.

ICCAT 1978. **Field manual for statistics and sampling Atlantic tunas and tuna-like fishes.** International Commission for the Conservation of Atlantic Tunas, Madrid, Spain. 144p.

II. PROCEDURE 1.

LOGBOOK ABSTRACTING

The vessel must be met as soon as it makes port and a Purse Seine Catch Report Form (Form 1) collected from the captain or his representative. If access to the vessel's logbooks is allowed, a Logbook Abstract Form (Form 2) should be completed from information contained in the captain's, engineer's, and navigator's logbooks. If the captain is not willing to allow access to his logbooks, then collect the required Catch Report Form. Make sure that it is complete and proceed to procedure 2.

Instructions For Completing Logbook Abstracting Form

The Logbook Abstracting Form is the same as that used by the Inter-American Tropical Tuna Commission (IATTC). An example abstract can be found in Appendix A. Guidelines for completing the form are as follows:

PAGE NUMBER:
Enter the page number of the abstract. The numbers run consecutively for each vessel trip.

VESSEL NAME:
Enter the complete vessel name. Do not use abbreviations.

FISHING CAPTAIN:
Enter the name of the fishing captain. Note that larger vessels may have a "paper" captain that is usually the navigator and a fishing captain.

NAVIGATOR:
Enter the name of the navigator if known. If the navigator is the same as the fishing captain enter "same" for this entry.

IATTC NO:
LEAVE BLANK

TRIP NO:
LEAVE BLANK

YEAR AND MONTH OF TRIP START:
Enter the year and month of the start of the trip. Use leading zeros for months, January=01. For example, 8801 for a trip that started any day in January 1988.

TABULATION CODE:
LEAVE BLANK

REGULATION STATUS:
LEAVE BLANK

CAPTAIN CODE:
LEAVE BLANK

ABSTRACTED BY:
Enter your initials.

AT:
Enter cannery site.

DATE OF ABSTRACT:
Enter the date month, day and year (i.e. 07/01/88) that the abstract form was completed.

WIND SCALE:
Enter the units used to record wind speed: 1 for miles per hour, 2 for beaufort scale and 3 for kilometers per hour. See Table 1 for beaufort scales.

WEIGHT SCALE:
Enter the units used to record estimated catches: 1 for short tons and 2 for metric tons.

DATE:
Enter the date, month and day, for each entry in the logbook. An entry is made for each day at sea and only one entry for the first day in port. Each set is entered on a separate line.

LOCATION:
Enter the latitude in degrees, minutes and compass direction (e.g. 0545N or 1035S) and longitude in degrees, minutes and compass direction (e.g. 14520E or 15555W). If no position is available enter "NO POSITION." The first entry for position for each trip is the port of departure and the last entry, port of arrival. If the vessel enters a port during its trip the port name is entered. An entry should be made for each day of the vessel's trip.

SCHOOL TYPE:
Enter the code (Table 2) that best describes the type of school being pursued or sighted. If this information is unavailable leave blank.

SCHOOL SPECIES:
Enter the code (Table 3) that best describes the species in the pursued or sighted school. If unavailable leave blank.

SET TIME START:

If a set is made, enter the local time (24 hour clock) in hours and minutes of the set start. If unavailable leave blank.

SET TIME FINISH:

If a set is made, enter the local time (24 hour clock) in hours and minutes of the set finish. If unavailable leave blank.

CATCH:

Enter the catches of each species, rounded to the nearest ton, in the proper column. If an entry is made in the OTHER column, enter the species code, if known, in the OTHER SPECIES column. If the set was unsuccessful enter "NIL" in the OTHER column. If there was no fishing activity, including searching for fish, enter "NFE" (no fishing effort) in the OTHER column and enter the reason in the COMMENT column (e.g. equipment failure). If fish are given to another vessel or received from another vessel the appropriate code should be entered in the COMMENTS column with the tonnages of each species transferred or received. Tonnages in the CATCH column should always include received or transferred fish.

WIND DIR./FORCE:

Enter the wind compass direction (e.g. SE) and speed in the units specified at the top of the form.

PLANE USE:

Enter a 1 if an airplane, 2 if a helicopter, 3 if an on board helicopter was used to assist in the location of fish schools. If unknown, or no plane used, leave blank.

WATER TEMP.:

Enter the water temperature, if available, in degrees Fahrenheit.

NONSET TIME:

Enter the local time when information on a nonset entry is made.

WELLS:

Enter the well number(s) in which fish were stored for each set. If more than one well is used enter the tonnages placed in each well.

COMMENT CODE AND OTHER INFORMATION:

Enter the appropriate comment code (Table 4) or any other comments such as transshipped tonnages and transshipment vessel.

III. PROCEDURE 2.

PLANNING FOR SAMPLING

The objective of length-frequency sampling is to obtain a minimum of 13 yellowfin, 13 bigeye and 10 skipjack samples from each month and statistical sampling area (Figure 1) fished by U.S. vessels in the South Pacific Treaty area. In order to keep track of the current number of samples that have been taken in each month-area stratum, a Length-Frequency Sampling Status Board (Form 3) is maintained. An example of this board is in Appendix B.

Instructions for completing the Length-Frequency Sampling Status Board

The Status Board is maintained at the sampler's field office and should keep a running total of the skipjack, yellowfin and bigeye total catch and number of samples taken to date from each month and area stratum. The board should be updated whenever a Purse Seine Vessel Catch Report Form or Logbook Abstracting Form is collected. If both the Logbook Abstracting Form and the Catch Report form are available, the Logbook Abstracting form is used to update the Status Board, as the information on this form is usually more complete.

CATCH:

Catches for each species by month and area are summarized from the Logbook Abstracting Form or the Catch Report Form and the cumulative totals posted on the status board.

 # SAMPLES:

The number of samples taken in each month-area stratum is updated after samples have been taken from each vessel. If several samples for a well are taken, by size group, then samples are counted as one for posting on the Status Board. For example, Well P3 is unloaded by size groups, small, medium and large for yellowfin and three samples are taken, one for each size group. The samples are counted as one for entry to the status board for yellowfin in the appropriate month-area stratum.

Vessel Length-Frequency Sampling Plan

Before taking length-frequency samples from any vessel, a sampling plan is developed on the Vessel Length-Frequency Sampling Plan (Form 4). An example of this Form is in Appendix C. Information found on the Purse

Seine Vessel Catch Report Form or the Logbook Abstracting Form is used to complete the plan. If both the Catch Report Form and Logbook Abstracting Form are available, the Logbook Abstracting Form is used.

After the Plan is completed, wells that contain catches entirely from one month-area strata are selected for sampling. The Length-Frequency Sampling Status Board is consulted and wells that contain catches from month-area strata that have not met the minimum sample size criteria of 13 yellowfin, 13 bigeye samples or 10 skipjack samples are chosen before selecting wells from area-time strata meeting the minimum sample size criteria. Note that yellowfin and bigeye samples will be harder to get due to the tonnage landed of this species. Therefore, these species should be given priority over skipjack, which are landed in higher quantities.

If time permits, samples must also be drawn from wells that meet the minimum sample size criteria. At least one sample of each species is drawn from each vessel, even if the minimum sample size criteria is met. If two vessels unload at the same time, priority will be assigned to the vessel with catches from under-sampled strata.

If all wells contain catches from more than one strata, choose wells in which catches can be segregated into month-area strata by position in the well (e.g. month 7 area 1 catches were placed in well P9 last).

Instructions for Completing the Vessel Length-Frequency Sampling Plan

VESSEL NAME:
Enter the entire vessel name. No abbreviations.

GEAR:
Enter the gear used for fishing.

FORM NO.:
Enter the form number. Numbers run consecutively from the beginning of the calendar year.

DATE:
Enter the date that the form was completed month, day and year (07/30/88).

CANNERY:
Enter the cannery name where the vessel is unloaded.

NAME OF FISHING CAPTAIN:
Enter the fishing captain's full name.

NAVIGATOR:

Enter the navigator's full name.

HAILED TONNAGE:

Enter the total tonnage of each species reported in the Logbook Abstracting Form or the Purse Seine Catch Report Form. This value is found by summing the catches for each day.

DATE UNLOADED:

This value is completed for each well that is sampled or observed during unloading. Otherwise, no entry is made. Enter the month and day (07/30).

CAPTURE DATE:

Enter the month(s) in which the fish in this well were caught. If more than one month is listed, separate with commas (07,08)

AREA:

Enter the area in which the fish in this well were caught. If more than one area is listed, separate with commas (I,II).

WELL NO.:

Enter well number in which fish were stored. If fish are stored in more than one well, separate by commas (P8, S8).

YELLOWFIN TONS:

Enter the short tons of yellowfin caught and stored in this well.

SAMPLE TAKEN LF/SC:

Enter a check mark in the appropriate column indicating whether a length-frequency and species composition sample for yellowfin tuna were taken from this well.

SKIPJACK TONS:

Enter the short tons of skipjack caught and stored in this well.

SAMPLE TAKEN LF/SC:

Enter a check mark in the appropriate column indicating whether a length-frequency and species composition sample for skipjack tuna were taken from this well.

OTHER SPECIES:

Enter the other species and short tons caught and stored in this well. If more than one other species is present separate by commas (BET 3, BSJ 4). Species abbreviations are shown in Table 3.

SAMPLE TAKEN LF/SC:

Enter a check mark in the appropriate column indicating whether a length-frequency and species composition sample for other species was taken from this well. Circle the species sampled if more than one are present.

SIZE SORTING INFORMATION:

If a well is unloaded and sampled by size groups, information in this section must be completed. Without this information the size group samples are useless, as the data are needed to reconstruct the actual composite length frequency of fish in the well.

WELL NO.:

Enter the well number from which fish were sampled that were unloaded by size groups.

TONS:

Enter the total tons of the sampled species in this well.

SPECIES:

Enter the species being sampled in this well (e.g. SKJ).

SIZE SORT PERCENTAGE(S):

Enter the estimated percent of the catch in each size group. Estimates are made by counting the number of buckets unloaded from the well for each size group. Each bucket contains approximately one ton of fish, so percentages by weight can be easily estimated. If time does not permit counting of buckets, estimates can be obtained from the unloading crew or engineer (e.g. 10% sm, 30% med, 60% lg). As a last resort a visual estimate is made.

REMARKS:

Use this section to describe the method used to estimate percentages: bucket count, crew estimate, engineer estimate, visual estimate, etc.

IV. PROCEDURE 3

LENGTH-FREQUENCY SAMPLES

NO SIZE SORTING OR MIXED SPECIES

If there is no size sorting of fish during unloading or mixed species noticed, samples of 50 fish are selected at random discarding any broken fish. Fish can all be drawn from one bucket or from more than one bucket, and will depend on the constraints of the unloading procedures. Fish are drawn from buckets as they are placed on the dock from the vessel (unless sampling on board the vessel is allowed). Fish are measured for fork length and sizes recorded on the Length-Frequency Sampling Form (Form 5). If fish are to large to handle, predorsal lengths can be taken and appropriately noted on the Form.

The preferred method for sampling is to record lengths on plastic sheets (Form 6) in millimeters, then transcribe the information to the Length-Frequency Form at the field office (an example of the completed plastic sheet is shown in Appendix D). This method will eliminate any rounding of lengths in the field, thus eliminating errors, expedite sampling and insure a complete Form. A completed Length-Frequency Sampling Form is shown in Appendix E. Both the front and the appropriate section on the back side of the Form must be completed.

Instructions for Completing Length-Frequency Sampling Form

The Length-Frequency Sampling Form is an all purpose form for recording length-frequency information from sampled landings of tropical tunas. Samples obtained from catcher vessels, transshipment vessels or single sets, may be recorded on this form.

[Front -- Items 1-13]

1. VESSEL:
Enter the name of the catcher vessel.

2. RANDOM/SELECT:
Circle the sampling technique used. If SELECT is circled, specify procedure in the comment section. Select sampling techniques should be avoided.

3. SPECIES:

Enter the three letter alpha code of the species sampled (Table 3).

4. SAMPLE NO.:

Enter the number of the sample. Samples should start at one for each species and continue sequentially from the beginning to the end of the calendar year.

5. TRANSSHIPMENT:

Enter the name of the transshipment vessel, if sample is from a transshipment.

6. HOLD/WELL/SET:

Circle the storage source of the sample and enter the number of the hold, if the source is a transshipment, the number of the well, if source is a catcher vessel in port or the number of the well and the number of the set (e.g. P7-2), if the source is a single set. Holds and wells are numbered from bow to stern, and are separated by P for port and S for starboard wells.

7. OCEAN:

Enter the name of the ocean in which the fish in the sample were caught. These may be abbreviated: ATL. for Atlantic, PAC. for Pacific, and IND. for Indian Ocean.

8. DATE:

Enter the date of sampling (mo/day/year).

9. MEASURED BY:

Enter the name of the sampler, first and last name.

10. TIME:

This is for single set samples. Enter the set time (for purse seiners, the time that the seine skiff is released). The time is recorded local time.

11. TONNAGE:

Enter the total tonnage, tonnage of yellowfin (YF), tonnage of skipjack (SJ), and tonnage of others (OTHERS). Tonnage of others should be specified by species when possible. All entries are in short tons; if other than short tons specify. Tonnages are usually obtained from the logbooks, captain or engineer if the landings are from catcher vessels or single sets. Transshipment tonnages are usually obtained from the canneries.

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Each specimen in the sample is measured and tallied in the appropriate one centimeter length interval. When all of the specimens have been measured and tallied enter the total in each interval in the box provided. Length is in fork length, if otherwise, specify under item 13.

12. TOTAL NO.:

Enter the total number of specimens sampled.

13. PREDORSAL/FORK LENGTH

Circle the type of measurement used.

14. COMMENTS:

Enter any remarks about the sampling such as process of selection, representativeness of sample, etc. If fish are measured that are larger or smaller than the sizes specified on the form they are also entered under comments (e.g. 189-2).

[Back]

This side of the Length-Frequency Sampling Form contains ancillary information about samples. The information is usually obtained from cannery officials, reefer manifests, landing receipts, logbooks, or the captain or engineer of the vessel. Complete the section which pertains to the type of sample: TRANSSHIPMENT INFORMATION - sample from a hold of a transshipment vessel, CATCHER VESSEL INFORMATION - sample from the well of a catcher vessel, or SINGLE SET INFORMATION - sample from a single set.

TRANSSHIPMENT INFORMATION

1. MANIFEST NO.:

Enter the cargo manifest number.

2. FISH CONDITION:

Enter the condition of the sampled fish, e.g., frozen round, gilled and gutted, fresh, etc.

3. PORT OF LANDING:

Enter the name of the port where the catch was unloaded from the catcher vessel onto the transshipment vessel.

4. DATE OF LANDING:

Enter the date (month, day, and year) on which the catcher vessel unloaded at the port of landing.

5. PORT TRANSSHIPPED:

Enter the name of the port where the catch was sent for processing, (e.g., port where the transshipment vessel landed its cargo).

6. DATE TRANSSHIPPED:

Enter the date (month, day, and year) when the catch was transshipped from the port of landing.

7. CARGO PLAN WEIGHT:

Enter the catch in short tons of yellowfin (YF), skipjack (SJ), others and total from the cargo loading plan. If units other than short tons are used note here or under comments. If possible obtain species breakdown of other species.

8. MANIFEST WEIGHT:

Enter the catch, in short tons, of yellowfin (YF), skipjack (SJ), other, and total from the reefer manifest. If units other than short tons are used, note here or under comments. If possible, obtain species breakdown of other species.

9. SIZE BREAKDOWN:

If the fish are sorted by size during unloading, enter the weight for each size group. The weights are unloading weights in short tons usually obtained from the cannery weighmaster. Note any change in units.

10. MIXED/PURE:

Circle mixed or pure which describes the species composition of the sample.

11. FLAG:

Note the flag of the catcher vessel.

12. COMMENTS:

Enter any remarks that are pertinent to this sample.

CATCHER VESSEL INFORMATION

1. FLAG:

Check the flag of the catcher vessel. If others is checked, enter the name of the country, e.g. __✔___others FRENCH.

2. AREA:

Enter the statistical sampling area where the sampled catch was made.

3. MONTH:

Enter the month fish in the sampled well were caught.

4. CLASS:

Enter the size class or carrying capacity in short tons of the catcher vessel.

5. MIXED/PURE:

Circle the one which best describes the species composition of the sampled well.

6. PORT OF LANDING:

Enter the name of the port at which the sample was taken.

7. DATE OF LANDING:

Enter the date fish were unloaded from the catcher vessel at the port of landing.

8. SET DISTRIBUTION:

The tonnage, by species, of each set that contributed to the sampled well is listed here. List the sets by date, area, catch and the wells in which the sets were stored. The area is in degrees and minutes whenever possible. The catch is in short tons of yellowfin (YF), skipjack (SJ), bigeye (BE), mixed, etc. If the tonnage is mixed, note the mixture, (e.g., 20 YF + BE). If the tonnage is divided in many wells, list the tonnage, by species, in each if possible (e.g. 20 - P1, 30 - P2).

DATE	AREA	CATCH				WELLS	SCHOOL TYPE
		YF	MIXED	SJ	BE		
7/1/75	0130S14520W	20	5 YF + SJ	10		P7 (22YF+13SJ)	FOAM

9. WELL:

Enter the number of the sampled well.

10. COMMENTS:

Enter all other remarks.

SINGLE SET INFORMATION

1. LATITUDE: LONGITUDE:

Enter the area in degrees, and minutes if possible, where the sampled set was made.

2. MIXED/PURE:

Circle the one which best describes the species composition of the sampled set.

3. TYPE OF SET:

Enter the type of set sampled, e.g. porpoise, school, etc.

4. COMMENTS:

Enter all other remarks. (tonnage in well by size group if possible)

MODIFICATION FOR SIZE SORTED LENGTH-FREQUENCY SAMPLES

If fish from a well are sorted by size before sampling, then 50 fish samples must be drawn from each size group. The same procedures followed in Procedure 3 are used to sample each size group.

V. PROCEDURE 4.

SPECIES COMPOSITION SAMPLES

Skipjack are usually unloaded separately since the price paid for this species by the canneries is different from that paid for yellowfin or bigeye. The price paid for yellowfin and bigeye is the same, and consequently, the two species are often landed together and called yellowfin. In order to separate the reported unloading weight, when different species are being unloaded and reported together, species composition samples must be taken.

When taking a length-frequency sample, if more than one species is encountered, a species composition sample of 100 fish must be drawn (Form 7). For example, when drawing yellowfin for a yellowfin length-frequency sample, the fifth fish drawn is a bigeye. Continue drawing 95 more fish noting the size and species. If the species cannot be determined from external characters, then the fish should be put aside and later identified by examination of the liver (Appendix F). If at the end of drawing 100 fish, there are 60 yellowfin, 10 black skipjack and 30 bigeye, a Length-Frequency Sampling Form is completed for the yellowfin and bigeye that were measured, and the sizes of the 10 black skipjack are noted on the Species Composition Form (Form 7). If there are more bigeye still being unloaded, 20 more bigeye are drawn at random and recorded on the same Length-Frequency Sampling form used to record the first 30 drawn. The bigeye drawn for the species composition sample are separated from those drawn to complete a fifty fish sample. Samples of the forms used in this example are shown in Appendices E and G. If fish are unloaded by size groups and each size group contains mixed species, a 100 fish composition sample must be drawn from each size group.

Instructions for Completing Species Composition Form

The Species Composition Form is used to report the species composition of an unloaded catch that contains one or more species other than that reported. Samples obtained from catcher vessels, transshipment vessels or single sets, may be recorded on this form. All fish counted in the composition sample are measured for length so that the reported catch in weight may be subdivided into catch by species.

REPORTER:

Enter the name of the sampler, first and last name.

3. **SPECIES:**
Enter the three letter alpha code of the species sampled (Table 3).

4. **SAMPLE NO.:**
Enter the number of the sample. Samples should start at one for each species and continue sequentially from the beginning to the end of the calendar year.

5. **TRANSSHIPMENT:**
Enter the name of the transshipment vessel, if sample is from a transshipment.

6. **HOLD/WELL/SET:**
Circle the storage source of the sample and enter the number of the hold, if the source is a transshipment, the number of the well, if source is a catcher vessel in port or the number of the well and the number of the set (e.g. P7-2), if the source is a single set. Holds and wells are numbered from bow to stern, and are separated by P for port and S for starboard wells.

7. **OCEAN:**
Enter the name of the ocean in which the fish in the sample were caught. These may be abbreviated: ATL. for Atlantic, PAC. for Pacific, and IND. for Indian Ocean.

8. **DATE:**
Enter the date of sampling (mo/day/year).

9. **MEASURED BY:**
Enter the name of the sampler, first and last name.

10. **TIME:**
This is for single set samples. Enter the set time (for purse seiners, the time that the seine skiff is released). The time is recorded local time.

11. **TONNAGE:**
Enter the total tonnage, tonnage of yellowfin (YF), tonnage of skipjack (SJ), and tonnage of others (OTHERS). Tonnage of others should be specified by species when possible. All entries are in short tons; if other than short tons specify. Tonnages are usually obtained from the canneries.

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Each specimen in the sample is measured and tallied in the appropriate one centimeter length interval. When all of the specimens have been measured and tallied enter the total in each interval in the box provided. Length is in fork length, if otherwise, specify under item 13.

UNLOADING WEIGHT (S/T):

Enter the vessel unloading weights in short tons yellowfin (YF), skipjack (SJ) and other. For other, specify species when possible.

SPECIES, NUMBER OF FISH, FREQUENCY SAMPLE NUMBER, BIOLOGICAL SAMPLE NUMBER:

List the number of fish of each species in the composition sample. Enter the total number of fish sampled. For each species with more than 15 fish in the sample, length measurements should be recorded on a Length Frequency Sampling Form and the sample number recorded here. For species with less than 15 fish, enter sizes in the margin to the right.

COMMENTS:

Enter any comments concerning the catch and sample.

VI. PROCEDURE 5

UNLOADING WEIGHTS

After a vessel has unloaded, unloading weights must be obtained. These weights are usually obtained from the cannery weighmaster and must be by size group. The Purse Seine Unloading Logsheet (FORM 8), collected from the vessel captain, should contain the same information but usually will not have the size groups separated. The unloading weights, obtained from the cannery, are usually supplied as xerox copies of computer summaries or as hand written summaries (Appendix H). Copies of these summaries should be sent to the processing center along with all length-frequency samples from each vessel.

VII. TAG RETURNS

Cannery workers, vessel crew members, and others are being encouraged to recover and return tags to government representatives. When a person returns a tag, collect the required information and present the reward. Note that many tagging programs are being conducted in the Pacific, and the rewards and requirements for each may be different (Appendix I). Tag recovery information collected are entered on the Tag Recovery Record (Form 9), unless other reporting forms are supplied by the tagging program. When return of whole fish is involved, arrangements must be made to store the fish until shipment to the research installation.

Instructions for Completing Tag Recovery Record

An example of the completed Form is shown in Appendix J.

FINDER:
Enter complete name of the person finding the tag.

VESSEL:
Enter the complete name of the vessel catching the tagged fish.

GEAR:
Enter the gear used to capture the tagged fish.

AREA OF RECAPTURE:
Enter the latitude and longitude in degrees and minutes of the area where the tagged fish was captured (e.g.. 25°14'S 145°30'W). If exact positions are not known, enter general area.

DATE OF RECAPTURE DAY/MO./YR.
Enter the day, month and year that the tagged fish was captured (e.g. 21/07/88).

TAG NUMBER Y R:
Enter the tag number (e.g. H000478) and tag color Y - yellow and R - red of the returned tag.

WELL:
Enter the well number in which the tagged fish was stored (e.g. P8).

SPECIES:
Enter the three letter alpha code (Table 3) for the species of the tagged fish.

DATE FOUND DAY/MO./YR.:

Enter the day, month and year that the tag was found.

LENGTH/WEIGHT F S:

Enter the length in centimeters or the weight in kilograms of the tagged fish, circle whether the measurement was length or weight and circle whether the measurement was provided by the finder (F) or the sampler (S). If measurements are taken in other units, be sure to enter the units.

CITY FOUND:

Enter the city and country where the tag was found.

PLACE FOUND:

Enter the place (cannery name, dock name, market name) where the tag was found.

SAMPLES COLLECTED OTOLITHS SPINES STOMACH:

Place a check mark in the appropriate box to note the samples taken from the tagged fish.

DATE SAMPLED:

Enter the day/month/year that the samples were taken.

FISH NUMBER:

LEAVE BLANK

DATE MAILED DAY/MO./YR.:

Record the mailing date of the tag and samples.

REWARD PAID:

Enter the amount and currency of payment or T-shirt.

DATE PAID:

Enter the date day/month/year on which finder was paid. If a reward has not yet been made, draw a line through the space provided.

COMMENTS AND NOTES:

Enter any comment here.

SIGNATURE:

Supervisor should sign here and note his/her title.

MONTHLY SUMMARY OF TAGS AND REWARD PAYMENTS

For accounting purposes, a summary of all tags collected and rewards paid is recorded on Form 10. In some cases, tagging programs may provide T-shirts and a fund to pay rewards. This Form can be used to report to those programs the status of rewards distributed.

Instructions for Completing Monthly Tag Summary

An example of the completed Form is shown in Appendix K.

FOR THE MONTH OF:
Enter the month covered by this summary.

TAG NO. YELLOW TAG RED TAG (WITHOUT FISH) RED TAG (WITH FISH):
Enter the tag number under the appropriate column showing the color of the tag.

REWARD PAYMENT DELAYED OR WITHHELD:
Briefly describe reason for nonpayment of reward.

REWARD GIVEN BY THIS OFFICE:
Enter the amount and currency given for a fish, a tag or check if a T-shirt given.

TAG SENT TO:
Enter the agency and country to which the tag was sent.

MONTHLY TOTAL:
Sum the amounts given in each category and enter here.

VIII. TABLES

Table 1. Beaufort Wind Force Codes and Associated Wind Speed (Knots).

Knots	Description	Sea Condition	Wind force (Beaufort)	Probable wave height in feet
0-1	Calm	Sea smooth and mirror-like.	0	—
1-3	Light air	Scale-like ripples without foam crests.	1	1/4
4-6	Light breeze	Small, short wavelets; crests have a glassy appearance and do not break.	2	1/2
7-10	Gentle breeze	Large wavelets; some crests begin to break; foam of glassy appearance. Occasional white foam crests.	3	2
11-16	Moderate breeze	Small waves, becoming longer; fairly frequent white foam crests.	4	4
17-21	Fresh breeze	Moderate waves,taking a more pronounced longform: many white foam crests; there may be some spray.	5	6
22-27	Strong breeze	Large waves begin to form; white foam crests are more extensive everywhere; there may be some spray.	6	10
28-33	Near gale	Sea heaps up and white foam from breaking waves begins to be blown in streaks along the direction of the wind; spindrift begins.	7	14
34-40	Gale	Moderately high waves of greater length; edges of crests break into spindrift; foam is blown in well-marked streaks along the direction of the wind.	8	18
41-47	Strong Gale	High waves; dense streaks of foam along the direction of the wind; crests of waves begin to topple, tumble and roll over; spray may reduce visibility.	9	23
48-55	Storm	Very high waves with long overhanging crests. The resulting foam in great patches is blown in dense white streaks along the direction of the wind. On the whole, the surface of the sea is white in appearance. The tumbling of the sea becomes heavy and shocklike. Visibility is reduced.	10	29
56-63	Violent storm	Exceptionally high waves that may obscure small and medium-sized ships. The sea is completely covered with long white patches of foam lying along the direction of the wind. Everywhere the edges of the wavecrests are blown into froth. Visibility reduced.	11	37
64-71	Hurricane	The air is filled with foam and spray. Sea completely white with driving spray; visibility very much reduced	12	45

Table 2. School Type Codes for use in Logbook Abstracts. The Table is from the Inter-American Tropical Tuna Commission's Field Manual.

SCHOOL CATEGORY	TYPE	CODE
School Fish	School	SCHL
	Boilers	BOIL
	Breezer	BRZ
	Jumpers	JMP
	Shiners	SHINE
	Finners	FIN
	Foamers	FOAM
	Smokers	SMOK
	Large Skipjack	JUMBO
	Wild School	WILD
	Bullets	BUL
	Black spot	BLACK
	Flippers	FLIP
	Green spot	GREEN
	Feeding school	FEED
	Squid school	SQUID
Floating Object School	Logs, tanks, corks, rope, plywood	LOG
	Whale	WHALE
	Shark	SHARK
	Kelp patty	KELP
	Baitboat	BB
	Artificial raft	ARFT
Night School	Ardura	ARD
	Night set	NITE
	Fireball	FIRE
Porpoise Associated School	Unknown porpoise	PORP
	Spotted porpoise	SPOTT
	Spinner porpoise	SPIN
	Spinner & spotted	S/S
	Whitebelly porpoise	WB
	Streakers	STRK

Table 3. Alpha and Numeric Species Codes Used to Designate Different Species on Sampling Forms.

NUMERIC CODE	ALPHA CODE	SPECIES
1	BFT	BLUEFIN TUNA
2	SBF	SOUTHERN BLUEFIN TUNA
3	YFT	YELLOWFIN TUNA
4	ALB	ALBACORE TUNA
5	BET	BIGEYE TUNA
6	BLF	BLACKFIN TUNA
7	LTA	ATLANTIC LITTLE TUNA
8	SKJ	SKIPJACK TUNA
9	BON	ATLANTIC BONITO
10	FRI	FRIGATE TUNA
11	BOP	PLAIN BONITO
12	WAH	WAHOO
13	SSM	SPANISH MACKEREL
14	KGM	KING MACKEREL
15	SAI	INDO-PACIFIC SAILFISH
15	SAI	ATLANTIC SAILFISH
16	BLM	BLACK MARLIN
17	BUM	BLUE MARLIN
18	WHM	WHITE MARLIN
19	SWO	SWORDFISH
21	OTH	OTHERS
24	BIL	BILLFISHES NEI
26	KGX	SEERFISHES NEI
28	MAW	WEST AFRICAN SPANISH MACKEREL
29	CER	CERO
30	BLT	BULLET TUNA
100	POR	PORBEAGLE
101	RSK	REQUIEM SHARKS
102	SDV	SMOOTHHOUNDS
103	SDP	PATAGONIAN SMOOTHHOUND
104	LSK	LIVEROIL SHARKS
105	SHX	SHARKS, UNC.
106	DGX	SHARKS, DOGFISH
107	DGH	DOGFISHES AND HOUNDS
108	DGS	PICKED(=SPINY) DOGFISH

Table 3. (continued)

NUMERIC CODE	ALPHA CODE	SPECIES
109	ASK	ANGEL SHARKS, SAND DEVILS
110	SRX	SKATES AND RAYS NEI
111	GUD	CHOLA GUITARFISH
112	GUF	PERUVIAN GUITARFISH
113	SAW	SAWFISH
114	SKA	SKATES NEI
115	WST	WHIP STINGRAY
116	ELF	ELEPHANTFISHES
117		CAPE ELEPHANTFISH
118	SNK	SNOEK
119	WSM	WHITE SNAKE MACKEREL
120	GEM	GEMFISH
121	HAD	HAIRFISHES, CUTLASSFISHES
122	LHT	LARGEHEAD HAIRTAIL
123	SFS	SILVER SCABBARDFISH
124	TUX	TUNA-LIKE FISHES NEI
125	MKX	MACKEREL-LIKE FISHES NEI
126	TUN	TUNA NEI
127	BEP	EASTERN PACIFIC BONITO
128	MAS	CHUB MACKEREL
129	MAC	ATLANTIC MACKEREL
130	MAA	SPOTTED CHUB MACKEREL
131	RAX	INDIAN MACKERELS NEI
132	RAB	SHORT MACKEREL
133	RAG	INDIAN MACKEREL
134	COM	NARROW-BARRED KING MACKEREL
135	GUT	INDO-PACIFIC KING MACKEREL
136	STS	STREAKED SEERFISH
137	SIE	PACIFIC SIERRA
138	NPH	JAPANESE SPANISH MACKEREL
139	FRZ	FRIGATE AND BULLET TUNAS
140	BKJ	BLACK SKIPJACK
141	KAW	LITTLE TUNA, KAWAKAWA
142	LOT	LONGTAIL TUNA
143	BLZ	INDO-PACIFIC BLUE MARLIN
144	MLS	STRIPED MARLIN
145	SKX	SHARKS, RAYS, SKATES
146	BIP	STRIPED BONITO

Table 4. Comment Codes Used on the Logbook Abstracting Form.

CODE	ACTIVITY
AP	Arrive Port: Record the arrival of a vessel in port as follows: enter the date, the name of the port in the "Location" column, "NFE" under "Other" in the "Catch" column, and the time of arrival in the "Non-set Time" column. In the "Comment Code and Other Information" column enter "AP" with the appropriate port. Use a separate line for each "AP" entry.
DP	Depart Port: As for "Arrive Port" above.
IP	In Port: Record any full days that the vessel remains in port, along with the appropriate port. A series of full days in the same port may be combined on a single line of the abstract form.
RN	Running.
DL	International Date Line crossing.
DR	Drifting.
RW	Rough Weather.
FW	Foggy Weather.
BD	Equipment Breakdown.
SI	Sick or injured crew member.
UN	Unknown reason for NFE.
VS	Vessel(s) Sighted (VS: name of vessel).
AV	Aiding another vessel at sea.
UD	In port under detention.
RF	Received Fish.
GF	Gave Fish.
DF	Dumped Fish.
TR	Transhipping at sea.
NU	Not Unloaded: Occasionally a vessel will not unload its entire catch, but will unload two-thirds or more of the fish on board. Unloading two-thirds of the catch terminates a trip. Record an "AP" entry on the first line of the abstract, and on the next line(s) enter the date, location, "NFE", and the comment code "NU", followed by the number of tons and the species code for each species left on board. Use a separate line for each species. For example: a vessel arrives in Samoa with a hail of 345 short tons (s/t) of yellowfin and 75 s/t of skipjack. 305 s/t of yellowfin were unloaded, leaving on board approximately 40 s/t of yellowfin and 75 s/t of skipjack. The trip would thus terminate in Samoa.
TB	Tons on Board: The vessel had fish on board when the trip started. If a vessel begins a trip with fish from a previous trip on board, record a "DP" entry on the first line of the abstract, and on the next line(s) enter the date, location, "NFE", and the "TB" comment code, followed by the number of tons and the code for each species left on board. Use a separate line for each species.
UF	Unloading Fish: The vessel unloads <u>less</u> than two-thirds of the fish on board to a cannery or reefer vessel. In this case, the trip will continue. For example, a vessel arrives in Samoa with 640 s/t of yellowfin and 120 s/t of skipjack on board, of which 100 s/t of yellowfin and 50 s/t of skipjack are unloaded. On the abstract form record an "AP" entry and on the next line(s) enter the date, location, "NFE", and the "UF" comment code, followed by the number of tons and the code for each species left on board. Use a separate line for each species.

IX. FIGURES

Figure 2. Example of Measuring Devices Calipers, (top) and Measuring Board (bottom), Used to sample tunas for length. The preferred measuring device is calipers. The illustration is taken from the International Commission for the Conservation of Atlantic Tunas, Port Sampling Manual.

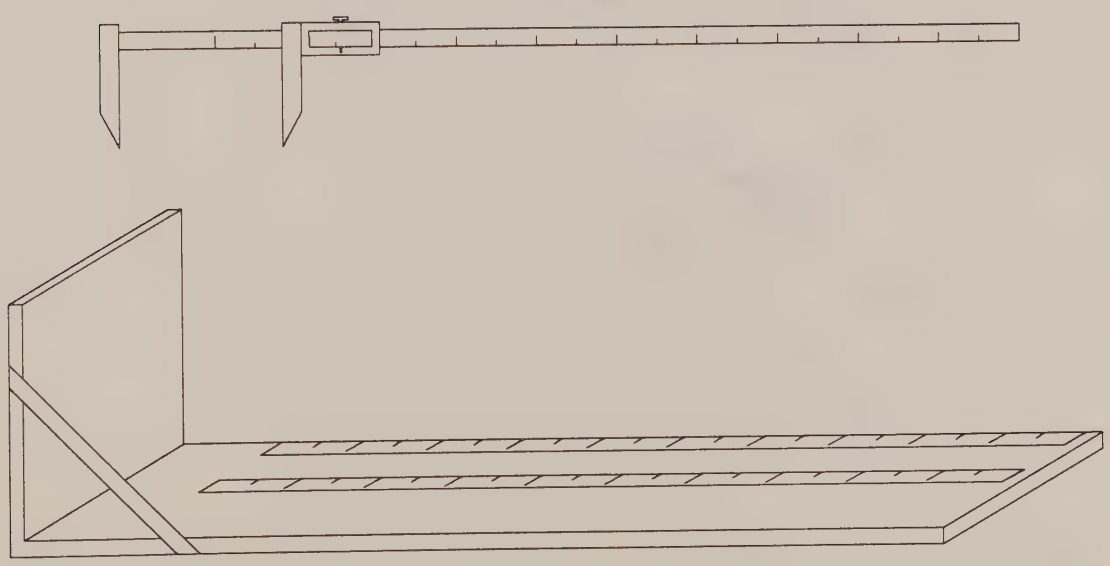
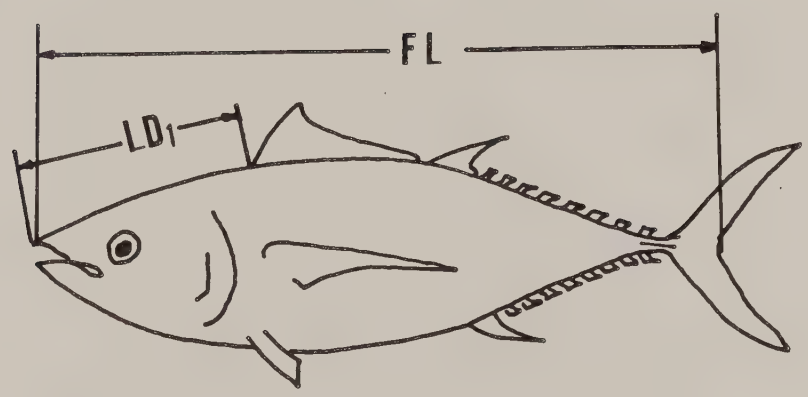


Figure 3. Examples of Fork Length (FL) and Predorsal Length (LDI) measurements of tunas. Fork length is the preferred measurement. The illustration is taken from the International Commission for the Conservation of Atlantic Tunas, Field Manual.



X. APPENDICES

APPENDIX A.

An example of a completed Logbook Abstracting Form. Example taken from the Inter-American Tropical Tuna Commission's Field Manual.

COPIED FROM: IATTC LOG & CHIEF'S LOG

PAGE NUMBER 1 AC = 3

VESSEL NAME NANNETTE C. FISHING CAPTAIN ALFRED E. NEWMAN NAVIGATOR POPEYE T. SAILOR

IATTC NO _____ TRIP NO. _____ YEAR & MONTH OF TRIP START 8706 TABULATION CODE _ REGULATION STATUS _ CAPTAIN CODE ____

ABSTRACTED BY ABC AT SAN DIEGO DATE OF ABSTRACT 870730 WIND SCALE 2 WEIGHT SCALE 1

DATE	LOCATION	SCHOOL TYPE	SCHOOL SPECIES	SET TIME START	SET TIME FINISH	CATCH YF	CATCH YF & SJ	CATCH SJ	CATCH OTHER	OTHER SPECIES	WIND DIR.	WIND FORCE	PLANE USE	WATER TEMP.	NON SET TIME	WELLS	COMMENT CODE AND OTHER INFORMATION
6/4	I PONCE, PUERTO RICO								NEE						1115		OP 48
5	1541N 07028W								✓								RN-BND PANAMA
6	No Pos								✓								✓ ✓ ✓
7	I CRISTOBAL, PANAMA								✓						0608		AP 37
✓	I ✓ ✓								✓						1200		DP 37
8	I BALBOA, PANAMA								✓						0100		AP 36
9-10	I ✓ ✓								✓								IP 36
11	I ✓ ✓								✓						1630		DP 36
12	0536N 07828W								NIL		SE	2		780	1200		1900 RN-BND SOUTH
13	0148 07942	JMP	03	1110	1305		–				✓	3	3	785			WENT UNDER
14	03585 08115W								NIL		✓	2		✓	1600		NO SIGNS
15	0428 08248	BRZ		0910	1240	040		020			S	✓	3	780		S-6	YFT 15 lbs. SKJ 10 lbs. S-6 FULL
16	No Pos								NFE		SW	7		760			RW-RN TO NORTH
17	0018N 08132W	S/S	01	0810	0930	–					✓	2	3	775			SIGHTED-CAPTURE-KI PORP = 800-250-10
✓	SAME AREA	SPOTT		1020	1210	020					✓	✓	✓	✓		P-6	✓ 400-400-50
18	0226 08340	LOG		0001	–	050		050			✓	3	✓	780		P-6 S-4	SMALL SKJ 2-3 lbs. DF: 050-02 (INCL
✓	0310 08410	✓		1608	–	010		020			✓	✓	✓	✓		S-4 P-3	DF: 020-02 (INCL
19	0608 08838								NEE		✓	6		785	1200		RW
20	0737 08355								NIL		✓	3		780	✓		CHOPPY-LOOKING
21	0718 08410	BRZ		0099	–	015					SSW	2	3	800		P-3	SEVERAL SETS MADE
✓	✓ ✓								NFE		✓	✓		✓	1710		SI-BND PANAMA
22	I BALBOA, PANAMA								✓								AP 36 w/SI
23	I ✓ ✓		–						✓								IP 36
24	I ✓ ✓								✓								DP 36

2 A full day not fishing due to breakdown

DATE	LOCATION		SCHOOL TYPE	SCHOOL SPECIES	SET TIME START	SET TIME FINISH	CATCH YF	CATCH YF & SJ	CATCH SJ	CATCH OTHER	OTHER SPECIES	WIND DIR.	WIND FORCE	PLANE USE	WATER TEMP.	NON SET TIME	WELLS	COMMENTS CODE AND OTHER OBSERVATIONS
6/25	0710N	08520W	SPOTT	01	0810	0936	–					SW	1	3	820			MISSED SCHOOL
26	1027	08628	LOG		0540	0715				020	BKJ	CALM			✓			DF: 020-08 (INCL.)
27	1037	08917								NIL		SW	1		830	1200		DR 1910
28	1306	09324								✓		✓	2		✓	✓		
29	1304	09908								✓		✓	✓		825	✓		
30	1319	10220	S/S		0940	1300	022					S	3	3	✓		P-3	700-250-30
✓	1343	10232	✓		1732	1956	010					✓	2	✓	835		✓	200-200-Ø 2000 DR
7/1	1419	10225	✓	01	1136	1420	–					✓	✓	✓	830		–	MISSED SCHOOL 1500-Ø-Ø
2	1434	10246				0	020					✓	1	✓	✓		S-3	BETTY RF: 184-020-01
✓	✓	✓	LOG	03	0001	1820		–				SW	2	✓	825			FISH WENT UNDER
3	1457	10242	FOAM		1010	1145				010	BET	✓	✓	✓	✓		S-3	
4	1528	10246	PORP		1810	2510	060					✓	✓	✓			S-3 = FULL NET ROLL-UP P-2 = 20T 500-400-10	
5	SAME AREA									NEE		✓	✓		830	1000		BD> WORK ON MAIN ENG. ALL DAY.
6	1715	10154	WHALE		1356	1830		120				SSW	3	3	835		P-2 S-2	FULL, P-7 = 20T 1920 DR. ✓
7	1711	10349	✓		0610	0820		010				✓	2	✓	✓		P-7	VS: 281 BLUE SKY
8	1848	10431								NIL		SW	3		✓	1210		
9	2018	10712								NEE		✓	6		✓	1200		RW - RN BND PORT
10	2249	10948								✓		✓	7		✓	0920		✓ ✓ ✓ ✓
✓	↓ SAN LUCAS CP.									✓						1140		AP 30 RW
11-13	↓ ✓	✓ ✓								✓								IP 30
14	↓ ✓	✓ ✓								✓						0430		DP 30
✓	2245N	10939W	WB		1011	1225	030					NW	3	3	820		P-7	HELICOPTER BD 1800-1500-Ø
15	2321	10758	SPOTT		0850	1020	010					✓	2		825		✓	NO HELICOPTER BD MOST WENT UNDER
✓	SAME AREA		✓		1045	–	025					✓	✓		✓		P-7 = FULL SAME SCHOOL S-7 = 20T 1000-1000-5	
16	1843	11003	✓		1410	2120	105					SW	✓		810		S-7 = FULL, S-8 = 10T P-8 = FULL	
17	1910	11048								NIL		✓	1		830	1200		DR. 1800
18	1823	11103								✓		✓	3		820	✓		NO SIGNS DR. 1830

PAGE NUMBER 3

VESSEL NAME NANNETTE C. FISHING CAPTAIN ALFRED E. NEWMAN NAVIGATOR

IATTC NO ____ TRIP NO. ____ YEAR & MONTH OF TRIP START ____ TABULATION CODE ___ REGULATION STATUS ___ CAPTAIN CODE ____

ABSTRACTED BY ___ AT _____ DATE OF ABSTRACT _____ WIND SCALE ___ WEIGHT SCALE ___

DATE	LOCATION		SCHOOL TYPE	SCHOOL SPECIES	SET TIME START	SET TIME FINISH	CATCH YF	CATCH YF & SJ	CATCH SJ	CATCH OTHER	OTHER SPECIES	WIND DIR.	WIND FORCE	PLANE USE	WATER TEMP	NON SET TIME	WELLS	COMMENT CODE AND OTHER INFORMATION
7/19	1432N	11040W								NIL		W	3		825	1230		DR. 1800 NET ROLL-UP
20	1546	11209	ARP	01	1156	1820	—					SW	2		✓			1500-800-200 DR. 1630
21	1619	11617	✓	✓	1430	1620	—					✓	✓		✓			BIP NET-LOST FISH DR-ALL DAY
22	SAME AREA									NEE		✓	✓		810			BD-NET REPAIR
23	1428	11927	S/S	01	0001	—	—					✓	✓					SKUNK 200-200-0 BILLY BOB
✓	1416	11912				0			010			✓	✓			1810	S-8	RF: 229-010-02
24	1706	12242								NIL		✓	1			1600		NO SIGNS SUE ANN (INCL.)
25	1745	12123	LOG		0730	1142	080		040			✓	3				S-8 P-4	GF: 798-040-02
✓	✓	✓								NEE						1230		WASH NET/TRIAL SET
✓	1806	12148								NIL		SW	2		825	1200		
26	2236	12226								✓		✓	✓		820	1220		
27	2714	11957								NEE								RH-BND PORT
28	3059	11802								✓								✓ ✓ ✓
✓	↓ SAN DIEGO									✓								AP 46
			TRIP TOTALS:				497	130	140	010	BET							
										020	BKJ							
								—	070	020	BKJ	(DF)						
								—	040			(GF)						TO T/S ON REEFER
			TOTAL ON BOARD:				497	130	030	010	BET							BIG WAVE TO PUERTO RICO

IATTC FORM-2 REVISED 5/77

2. A full day not fishing due to breakdown.
3. A full day not fishing

APPENDIX B.

An example of a completed Length-Frequency Sampling Status Board. The board will be a 4' x 4' white board to be hung on the wall of the field sampling office.

LENGTH - FREQUENCY SAMPLING STATUS BOARD

MONTH		AREA STRATUM														
		I			II			III			IV			V		
		YFT	SKJ	BET	YFT	SKJ	BET	YFT	SKJ	BET	YFT	SKJ	BET	YFT	SKJ	BET
January	Catch	100	200													
	# Samples	2	4													
February	Catch	50	100													
	# Samples	1	1													
March	Catch		100		150	300										
	# Samples		1		1	4										
April	Catch				200	600	50	20	400							
	# Samples				2	6	1		5							
May	Catch				100	700		50	500			600			200	
	# Samples				1	6		1	5			2				
June	Catch				100	1000		200	2000	70						
	# Samples				2	10		6	11	2						
July	Catch		100		400	1100	100	400	2450	80						
	# Samples		2		7	12	2	7	13	2						
August	Catch				600	1250		700	2900	200						
	# Samples				10	15		13	17	5						
September	Catch															
	# Samples															
October	Catch															
	# Samples															
November	Catch															
	# Samples															
December	Catch															
	# Samples															

APPENDIX C.

An example of a completed Vessel Length-Frequency Sampling Plan.

APPENDIX D.

An example of a completed plastic sheet used to record fish lengths in the field.

A.K. STROM P7 MED. FISH 3 to 10 lbs YFT		AK. STROM P7 LG. FISH >10 lbs YFT					
501	594	800	1005				
555	566	750	966				
523	570	774	759				
534	588	813	880				
537	522	904	890				
546	531	975	896				
610	595	689	945				
625	607	707	784				
557	633	792	832				
605	588	895	910				
632	569	1074	961				
565	574	1006	1014				
584	588	1011	927				
516	576	1022	943				
597	599	977	934				
574	534	849	1002				
522	537	950	996				
516	532	1022	974				
567	529	1001	875				
589	557	994	749				
624	564	966	832				
534	580	872	840				
557	550	744	863				
544	560	866	964				
566	532	854	972				

Only two size groups on A.K. STROM P7

APPENDIX E.

Two examples of completed Length-Frequency Sampling Forms. The first is for 74 yellowfin measured from a species composition sample and the second is from 20 bigeye measured from the same species composition sample plus 30 extra fish that were drawn to make a fifty fish sample.

LENGTH FREQUENCY SAMPLING FORM

1. VESSEL: A.K. STROM 2. (RANDOM) / SELECT 3. SPECIES: BET 4. SAMPLE NO.: 3

5. TRANSSHIPMENT: _____ 6. HOLD / (WELL) / SET: P7 7. OCEAN: PAC

8. DATE: 08/11/88 9. MEASURED BY: A. COAN 10. TIME: 10.00 AM

11. TONNAGE: TOTAL 897.34 YF 200.34 SJ 647.00 OTHERS 50.00 BET

	LF	SC									
25				66			107			148	
26				67			108			149	
27				68			109			150	
28				69			110			151	
29				70			111			152	
30				71			112			153	
31				72			113			154	
32				73			114			155	
33				74			115			156	
34				75			116			157	
35				76			117			158	
36				77			118			159	
37				78			119			160	
38				79			120			161	
39				80			121			162	
40				81			122			163	
41				82			123			164	
42				83			124			165	
43				84			125			166	
44				85			126			167	
45				86			127			168	
46				87			128			169	
47				88			129			170	
48				89			130			171	
49				90			131			172	
50	/		1	91			132			173	
51 /	/		2	92			133			174	
52 ///	//		5	93			134			175	
53 ///	~~////~~ ~~////~~		13	94			135			176	
54 ~~////~~	//		7	95			136			177	
55 ////	///		7	96			137			178	
56 ~~////~~	/		6	97			138			179	
57 ////			4	98			139			180	
58 ///			3	99			140			181	
59 /			1	100			141			182	
60 /			1	101			142			183	
61				102			143			184	
62				103			144			185	
63				104			145			186	
64				105			146			187	
65				106			147			188	

12. TOTAL NO.: 50 13. PREDORSAL / (FORK LENGTH)

14. COMMENTS: 20 FISH FROM SPECIES COMPOSITION SAMPLE AND 30 EXTRA FISH DRAWN TO COMPLETE THE LENGTH FREQUENCY SAMPLE.

NOAA 88-128 (6-89) LF 0001

TRANSSHIPMENT INFORMATION

1. MANIFEST NO.: _____ 2. FISH CONDITION: _____
3. PORT OF LANDING: _____ 4. DATE OF LANDING: _____
5. PORT TRANSSHIPPED: _____ 6. DATE TRANSSHIPPED: _____
7. CARGO PLAN WEIGHT: TOTAL _____ YF _____ SJ _____ OTHER _____
8. MANIFEST WEIGHT: TOTAL _____ YF _____ SJ _____ OTHER _____
9. SIZE BREAK DOWN: _____ 10. MIXED / PURE
YFT 3 to 10 lbs - 51.62 ST 11. FLAG: _____
>10 lbs - 8.38 ST
TOTAL 60.00 ST

12. COMMENTS: _____

CATCHER VESSEL INFORMATION

1. FLAG: _____ U.S. ✓ OTHERS _____ 2. AREA: II
3. MONTH: 05 4. CLASS: 6 5. MIXED / PURE
6. PORT OF LANDING: PAGO PAGO, SAMOA 7. DATE OF LANDING: 08/11/88
8. SET DISTRIBUTION: 9. WELL: P7

DATE	AREA	CATCH				WELLS	SCHOOL TYPE
		YF	MIXED	SJ	BE		
05/07/88	10°30'S 150° 20'E	20				P7	FOAM
05/08/88	10°31'S 150° 25'E	40			10	P7-40YFT; P8-10BET	FOAM

10. COMMENTS: FISH UNLOADED BY SIZE, SEE 9 ABOVE FOR BREAKDOWN
THIS IS A SAMPLE OF 3 to 10 lb. FISH.

SINGLE SET INFORMATION

1. LATITUDE _____ ° _____ LONGITUDE _____ ° _____ 2. MIXED / PURE
3. TYPE OF SET: _____
4. COMMENTS: _____

U.S. GPO: 1989—783-303/20109

LENGTH FREQUENCY SAMPLING FORM

1. VESSEL: A. K. STROM 2. (RANDOM) / SELECT 3. SPECIES: YFT 4. SAMPLE NO.: 5

5. TRANSSHIPMENT: _____ 6. HOLD / (WELL) / SET: P7 7. OCEAN: PAC.

8. DATE: 08/11/88 9. MEASURED BY: G. YAMASAKI 10. TIME: 9:00 AM

11. TONNAGE: TOTAL 897.34 YF 200.34 SJ 647.00 OTHERS 50.00 BET

25		66		107		148	
26		67		108		149	
27		68		109		150	
28		69		110		151	
29		70		111		152	
30		71		112		153	
31		72		113		154	
32		73		114		155	
33		74		115		156	
34		75		116		157	
35		76		117		158	
36		77		118		159	
37		78		119		160	
38		79		120		161	
39		80		121		162	
40		81		122		163	
41		82		123		164	
42		83		124		165	
43		84		125		166	
44		85		126		167	
45		86		127		168	
46		87		128		169	
47		88		129		170	
48		89		130		171	
49		90		131		172	
50 II	2	91		132		173	
51 ~~IIII~~	5	92		133		174	
52 ~~IIII~~ ~~IIII~~	10	93		134		175	
53 ~~IIII~~ ~~IIII~~ ~~IIII~~	15	94		135		176	
54 ~~IIII~~	5	95		136		177	
55 ~~IIII~~ IIII	9	96		137		178	
56 ~~IIII~~ ~~IIII~~	10	97		138		179	
57 IIII	4	98		139		180	
58 III	3	99		140		181	
59 ~~IIII~~	5	100		141		182	
60 II	2	101		142		183	
61 I	1	102		143		184	
62 II	2	103		144		185	
63 I	1	104		145		186	
64		105		146		187	
65		106		147		188	

12. TOTAL NO.: 74 13. PREDORSAL / (FORK LENGTH)

14. COMMENTS: FISH SAMPLED FROM SIDE OF WELL AS IT WAS BEING UNLOADED.

NOAA 88-128 (6-89) LF 0001

TRANSSHIPMENT INFORMATION

1. MANIFEST NO.: _____ 2. FISH CONDITION: _____
3. PORT OF LANDING: _____ 4. DATE OF LANDING: _____
5. PORT TRANSSHIPPED: _____ 6. DATE TRANSSHIPPED: _____
7. CARGO PLAN WEIGHT: TOTAL _____ YF _____ SJ _____ OTHER _____
8. MANIFEST WEIGHT: TOTAL _____ YF _____ SJ _____ OTHER _____
9. SIZE BREAK DOWN: _____
YFT 3 to 10 lbs = 51.62 ST
>10 lbs - 8.38 ST
TOTAL - 60.00 ST
10. MIXED / PURE
11. FLAG: _____

12. COMMENTS: _____

CATCHER VESSEL INFORMATION

1. FLAG: _____ U.S. ✓ OTHERS _____ 2. AREA: II
3. MONTH: 05 4. CLASS: 6 5. (MIXED) / PURE
6. PORT OF LANDING: PAGO PAGO, SAMOA 7. DATE OF LANDING: 08/11/88
8. SET DISTRIBUTION: 9. WELL: P7

DATE	AREA	CATCH				WELLS	SCHOOL TYPE
		YF	MIXED	SJ	BE		
05/07/88	10° 30'S 150° 20'E	20				P7	FOAM
05/08/88	10° 31'S 150° 25'E	40			10	P7-40 YFT; P8-10 BET	FOAM

10. COMMENTS: FISH UNLOADED BY SIZE, SEE 9 ABOVE FOR BREAK DOWN
THIS IS A SAMPLE OF 3 to 10 lb FISH

SINGLE SET INFORMATION

1. LATITUDE _____ ° _____ LONGITUDE _____ ° _____ 2. MIXED / PURE
3. TYPE OF SET: _____
4. COMMENTS: _____

U.S. GPO: 1989—783-303/20109

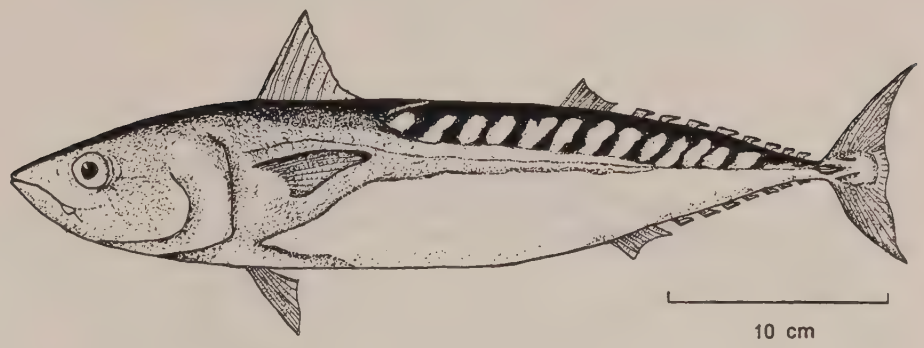
APPENDIX F.

Distinctive characteristics (external and internal) for 7 commonly caught tunas and tuna-like fish. The distinction between livers of yellowfin and bigeye tunas is also shown.

ORDER: Scombriformes
FAMILY: Scombridae

Sheet No. 11
1972

SCIENTIFIC NAME: *Auxis rochei* (Risso)
SYNONYMS STILL IN USE: *Auxis thynnoides*
A. tapeinosoma
(A. thazard)



VERNACULAR NAMES:

	ICCAT	FAO
En:	Bullet tuna	Bullet tuna

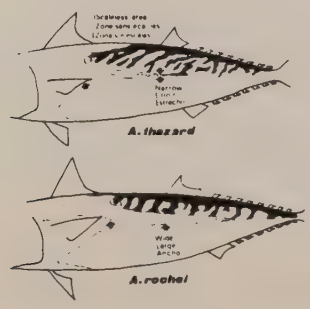
NATIONAL. — JAPN: Marusoda
USA: Bullet tuna
USSR: Skumbrievyi tunets

DISTINCTIVE CHARACTERS AND DIAGNOSIS:

Round fusiform body. Caudal portion very short. Teeth on both jaws only. First and second dorsal fins separated by a distance equal to or greater than snout length. Interpelvic process single and very large, equal to length of pelvic fins; body scaly anteriorly, naked posteriorly; dorsal finlets 8; anal finlets 7. Wide corselet of scales (6-20 scales) under second dorsal fin origin.

Fresh specimen has overall bluish iridescence. Wavy bars on side above and behind corselet. Black patch at postero-ventral border of eye. Anal fins and finlets almost colorless, with white patch around base.

DISTINCTION FROM MOST SIMILAR SPECIES OCCURRING IN THE AREA:



Many scientists believe that *Auxis rochei* is the same species as *A. thazard*. *A. thazard* is identified by its narrow corselet of scales (no more than about five scales wide under second dorsal fin origin) compared to *A. rochei* which has wider corselet (6-20 scales). Pectoral fin of *A. thazard* extends posteriorly to beginning of scaleless area above corselet while in *A. rochei* pectoral fin does not reach beginning of scaleless area. Dark wavy line in the dorsal scaleless area usually oblique to nearly horizontal in *A. thazard* while in *A. rochei* nearly vertical.

Gill rakers on lower limb of 1st arch count 31 to 36 in *A. rochei* compared to 29 to 32 in *A. thazard*.

SIZE:

Maximum: Common:

ORDER: Scombriformes
FAMILY: Scombridae

Sheet No. 9
1972

SCIENTIFIC NAME: *Sarda sarda* (Bloch)
SYNONYMS STILL IN USE: None

VERNACULAR NAMES:

	ICCAT	FAO
En:	Atlantic bonito	Atlantic bonito (Belted pelamid)
Fr:	Bonite à dos rayé	Bonite à dos rayé
Sp:	Bonito	Bonito

NATIONAL. —

BRAZ:	Sarda	MORC:	Bonite
CAND:	Atlantic bonido	PORT:	Bonito
	Bonite à dos rayé	S. AFR:	Bonito
FRAN:	Bonite à dos rayé		Katonke
GERM:	Pelamide	SPAN:	Bonito
JAPN:	Hagatsuo	USA:	Atlantic bonito
KORE:	Dae-seo-yang-chul-sam-chi	USSR:	Pelamida

DISTINCTIVE CHARACTERS AND DIAGNOSIS:

Five to eleven longitudinal dark oblique stripes on upper part of body. First dorsal spines 20-23. Gill rakers 16-24 on first arch. No teeth on tongue. Teeth are sometimes present on vomer. Body covered with tiny scales. Caudal peduncle very slender, with well developed keel on each side at base of caudal fin. First dorsal long, nearly reaches second dorsal.

Steel-blue above, silvery below. Back and sides in adults have several dark stripes running obliquely downward and forward. Dorsal and caudals dusky. Pectoral pale. Other fins more or less silvery.

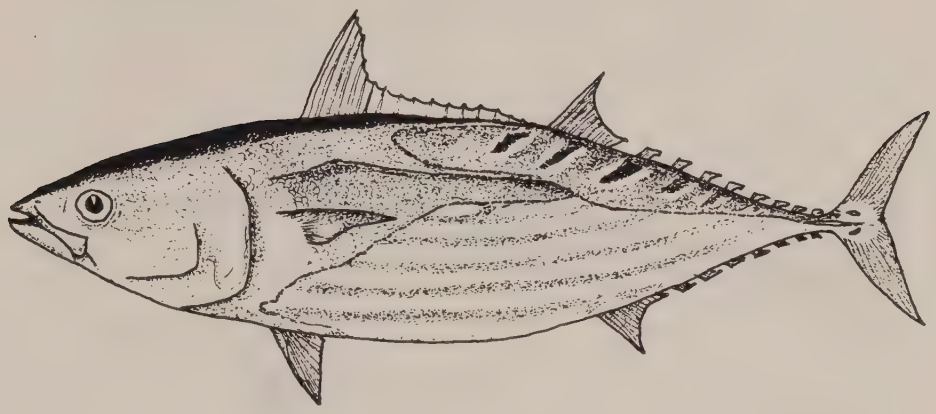
SIZE:

Maximum: 85 cm Common:

ORDER: Scombriformes
FAMILY: Scombridae

Sheet No. 8
1972

SCIENTIFIC NAME: *Katsuwonus pelamis* (Linnaeus)
SYNONYMS STILL IN USE: *Euthynnus pelamis*



10 cm

VERNACULAR NAMES:

	ICCAT	FAO
En:	Skipjack	Skipjack tuna
Fr:	Bonite à ventre rayé	Bonite à ventre rayé
Sp:	Listado	Listado

NATIONAL. —

BRAZ:	Bonito de barriga listada	PORT:	Gaiado
CAND:	Skipjack	S. AFR:	Skipjack
	Thonine à ventre rayé	SPAN:	Listado
FRAN:	Bonite à ventre rayé	TAIW:	Theng chien
JAPN:	Katsuo	USA:	Skipjack tuna
KORE:	Ga-da-raeng-i	USSR:	Okeanskii bonito
MORC:	Listao		

DISTINCTIVE CHARACTERS AND DIAGNOSIS:

Three to five prominent dark longitudinal stripes on lower part of body. Gill rakers 53-63 on first arch. No teeth on palatines, vomer or tongue. First dorsal spines 15-16.

Dark purplish blue on dorsal side and silvery on ventral. Several dark stripes run along the body in ventral part. When dead, these appear as horizontally continuous lines, but while alive they are not continuous and do not form horizontal nor vertical lines.

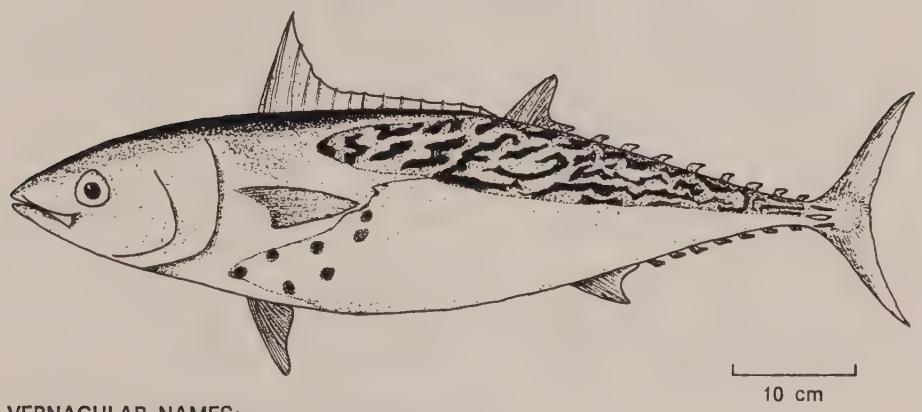
SIZE:

Maximum: Occasionally exceed 90 cm Common: 40 to 70 cm.

ORDER: Scombriformes
FAMILY: Scombridae

Sheet No. 7
1972

SCIENTIFIC NAME: *Euthynnus alletteratus* Rafinesque
SYNONYMS STILL IN USE: None



VERNACULAR NAMES:

	ICCAT	FAO
En:	Atlantic little tuna	Atlantic little tuna
Fr:	Thonine	Thonine de l'Atlantique
Sp:	Bacoreta	Bacoreta del Atlántico

NATIONAL. — (BERM: Mackerel)
BRAZ: Bonito pintado
CAND: Little tunny
FRAN: Thonine (de l'Atlantique)
JAPN: Yaito
MORC: Bacorette
PORT: Merma
S. AFR: Little tunny
SPAN: Bacoreta
USA: Little tunny/Black skipjack
USSR: Piatnistyi tunets

DISTINCTIVE CHARACTERS AND DIAGNOSIS:

Body naked behind anterior corselet. Pectoral fin rays 26-27.

Dark blue on dorsal part with complicated striped pattern. Silvery gray on ventral side. Several dark spots between pelvic and pectoral fins characterize the species. Gill rakers 37-43 (in skipjack 53-63).

SIZE:

Maximum: about 100 cm.

ORDER: Scombriformes
FAMILY: Scombridae (Thunnidae)

Sheet No. 5
1972

SCIENTIFIC NAME: *Thunnus obesus* (Lowe)
SYNONYMS STILL IN USE: *Parathunnus obesus*
Parathunnus sibi

10 cm

VERNACULAR NAMES:

	ICCAT	FAO
En:	Bigeye tuna	Bigeye tuna
Fr:	Thon obèse	Thon obèse
Sp:	Patudo	Patudo

NATIONAL. —	BRAZ:	Albacora-bandolin	PORT:	Patudo
	CAND:	Bigeye tuna	S. AFR:	Bigeye tunny
		Thon ventru		Grootoog tuna
	FRAN:	Thon obèse	SPAN:	Patudo
	JAPN:	Mebachi	TAIW:	Tha mu we
	KORE:	Nun-da-raeng-i	USA:	Bigeye tuna
	MORC:	Thon obèse	USSR:	Bol'sheglazyi tunets

DISTINCTIVE CHARACTERS AND DIAGNOSIS:

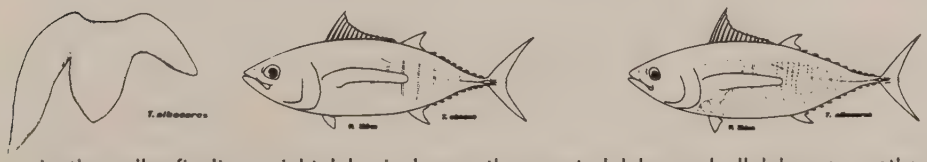
Stocky body and big eyes characterize the species. Pectoral fin in adult extends beneath second dorsal fin but not beneath second dorsal finlet. Large head. Body depth exceeds 25 % of standard fork length. Second dorsal and anal rays are relatively short. Liver striated on ventral surface. Gill rakers 25-31 (in Atlantic).

Dorsal side metallic dark blue. Ventral silvery white. Side yellowish purple. Young have greyish white spots on ventral side. Fins: 1st dorsal greyish yellow — 2nd dorsal and anal light yellow. Finlets: light yellow edged with black.

DISTINCTION FROM MOST SIMILAR SPECIES OCCURRING IN THE AREA:

Immature yellowfin *(Thunnus albacares)*, albacore *(T. alalunga)* and blackfin *(T. atlanticus)* have eyes of size comparable to young bigeye. *(T. obesus)*, and pectoral fins of young bigeye are as long as those of albacore of comparable size.

Also, bigeye is often caught together with yellowfin by surface gear. Young fish resemble each other and are often confused. White stripes on side of the body usually curve backwards toward the ventral side in yellowfin, while in bigeye they normally run straight down. Stripes appear alternately in an unbroken line and in a chain of dots in yellowfin, but appear only as an unbroken line in bigeye. Yellowfin has more than 10 stripes, bigeye less than 8.



In the yellowfin liver, right lobe is longer than central lobe, and all lobes are rather pointed, while in bigeye the central lobe is the longest, with all lobes being less pointed. Liver striated in bigeye but not in yellowfin.

In nasal cavity, no parasites are found. However, the lack of parasites does not necessarily indicate bigeye.

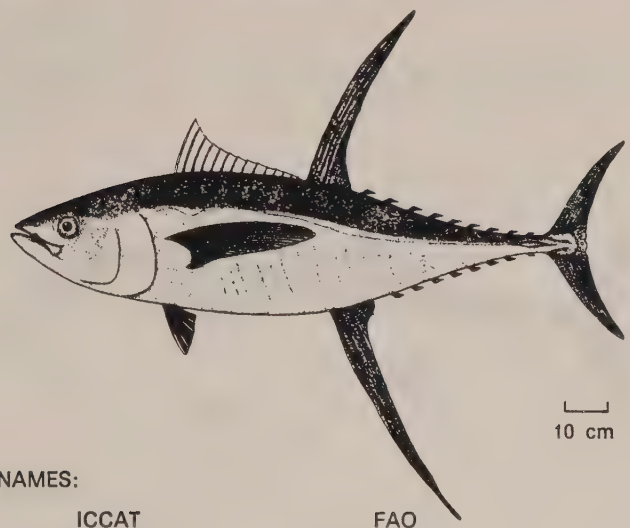
SIZE:

Maximum: 190 cm.
Common: 40 to 170 cm.

ORDER: Scombriformes
FAMILY: Scombridae (Thunnidae)

Sheet No. 3
1972

SCIENTIFIC NAME: *Thunnus albacares* (Bonnaterre)
SYNONYMS STILL IN USE: *Neothunnus macropterus*



VERNACULAR NAMES:

	ICCAT	FAO
En:	Yellowfin tuna	Yellowfin tuna
Fr:	Albacore	Albacore
Sp:	Rabil	Rabil

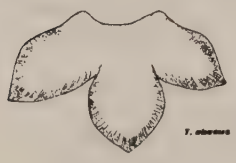
NATIONAL. — BRAZ: Albacora de lage
CAND: Yellowfin tuna
Albacore à nageoires noire
FRAN: Albacore
JAPN: Kihada
KORE: Huang-da-raeng-i
MORC: Albacore
PORT: Albacora
S. AFR: Yellowfin tunny
Geelvin tuna
SPAN: Rabil
TAIW: Huang chi we
USA: Yellowfin tuna
USSR: Zheltoperyi tunets

DISTINCTIVE CHARACTERS AND DIAGNOSIS:

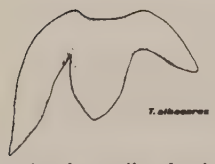
Slender fusiform body — body depth less than 25 % of fork length. Small eyes and head, longer second dorsal and anal rays than other tunas. These traits vary with size of fish and area of catch. Liver without striations on ventral surface. Gill rakers 26-35.

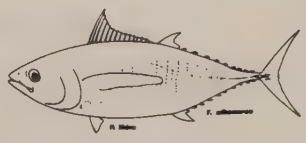
Dorsal skin dark blue —ventral silvery gray— side golden. Young (less than 120-130 cm) have chains of white spots. Fins: 1st D. F. lemon yellow — 2nd D. F. and A. F. yellow. Finlets: yellow with black edges. **Anal fin and second dorsal fin long in adults only.**

DISTINCTION FROM MOST SIMILAR SPECIES OCCURRING IN THE AREA:



Bigeye *(Thunnus obesus)* is often caught together with yellowfin *(T. albacares)* by surface gear. Young fish resemble each other and are often confused. White stripes on side of the body usually curve backwards toward ventral side in yellowfin, while in bigeye they normally run straight down. Stripes appear alternatively in an unbroken line and in a chain of dots in yellowfin, but, appear only as un unbroken line in bigeye. Yellowfin has more than 10 stripes, bigeye less than 8.





In the yellowfin liver, right lobe is longer than central lobe, and all lobes are rather pointed, while in bigeye the central lobe is the longest, with all lobes being less pointed. Liver striated in bigeye but not in yellowfin.

For 85-95 % of yellowfin specimenes, a parasite (Tristoma), 12-14 mm in diameter, pearl colored and disc type, is found in the nasal cavity. These are not found in bigeye.

SIZE:

Maximum: 190 cm.
Common: 40 to 170 cm.

ORDER: Scombriformes
FAMILY: Scombridae (Thunnidae)

Sheet No. 1
1972

SCIENTIFIC NAME: *Thunnus thynnus thynnus* (Linnaeus)
SYNONYMS STILL IN USE: *Thunnus thynnus*

10 cm

VERNACULAR NAMES:

	ICCAT	FAO
En:	Bluefin tuna	Bluefin tuna Northern Atlantic
Fr:	Thon rouge	Thon rouge Atlantique Nord
Sp:	Atún	Atún Atlántico Norte

NATIONAL. —

BRAZ:	Atúm	NETH:	Tonijin
CAND:	Bluefin tuna	NORW:	Makrellstørje
	Thon rouge	POLN:	Turńczyk
DENM:	Tunfisk	PORT:	Atûm
FINL:	Tonnikala	S. AFR:	Bluefin tunny
FRAN:	Thon rouge		Blouvin tuna
GERM:	Thunfisch	SPAN:	Atún
ICEL:	Túnfiskur	SWED:	Tonfisk
JAPN:	Kuromaguro	TAIW:	Hay we
KORE:	Cham-da-raeng-i	USA:	Bluefin tuna
MORC:	Thon rouge	USSR:	Tunets

DISTINCTIVE CHARACTERS AND DIAGNOSIS:

Fusiform body compressed and very robust in front. Short pectoral fin scarcely reaching origin of 2nd dorsal fin. Height of 2nd dorsal longer than that of 1st dorsal. Caudal keel black at adult stage. Semi-transparent when immature. Liver striated on ventral surface. Gill rakers 34-43.

Dorsal skin dark blue or black. Ventral skin silvery gray with colorless transverse lines and rows of colorless dots in alteration. These run vertically in young and gradually bend backwards toward median ventral line as fish grows. Fins: 1st dorsal obscure yellow —2nd dorsal and anal grayish yellow. Finlets: grayish yellow edged with black.

DISTINCTION FROM MOST SIMILAR SPECIES OCCURRING IN THE AREA:

Thunnus thynnus thynnus has caudal keels black in adult and semi-transparent in young while *T. maccoyii* (southern bluefin) has yellow caudal keel. Fork length is 4.6 to 6.0 times length of pectoral fin in bluefin, 4.4 to 4.6 in southern bluefin tuna.

SIZE:

Maximum: over 300 cm Common: 40 to 200 cm.

APPENDIX G.

An example of a completed Species Composition Form.

SPECIES COMPOSITION

Reporter: GORDON YAMASAKI Species: YFT Sample #: 4

Date: 08/11/88 Reported from: PAGO PAGO, SAMOA

Catcher Vessel: A.K. STROM Gear: PS

Flag: U.S. Date of catch: 07 Area: II

Transshipment Vessel:

Hatch/Well/Set: P7 Sort Type: B

Unloading Weight (S/T): 60 Size Code: 2

Total: YF: 60 SJ:

Other:

Species	Number of Fish	Freq. Sample Number	Biolo. Sample Number	
Yellowfin	74	5		
Skipjack	6			50-2; 52-3, 56-1
Bigeye	20	3		
Albacore				
Bluefin				
Blk. Skipjack				
Others				
UNK.(YE/BE)				
Total	100			

Comments: Bigeye mixed in Well. This is a sample of 3 to 10 lb. fish.

LF0002

APPENDIX H.

Examples of completed cannery reports of Unloading Weights by Size Groups. Three different types of reports are used, handwritten summaries, and two types of computerized listings.

SIZING REPORT FOR PURSE SEINERS

MV CONQUISTADOR

CONQUISTADOR 11/14/88

SKIPJACK

SLLS	3 UNDER	3-4LBS	4-7.5 LBS	7.5 OVER		TOTAL	
P-1	—	—	—	—	—	—	—
S-1	—	—	—	—	—	—	—
P-2	—	6.051	14.236	15.304		35.591	
S-2	—	3.468	10.116	15.318		28.902	
P-3	—	1.389	21.710	21.266		44.365	
S-3	—	1.620	48.629	30.798		81.047	
P-4	—	—	14.785	90.823		105.608	
S-4	—	—	27.927	68.373		96.300	
P-5	—	1.743	14.813	70.580		87.136	
S-5	—	—	14.207	80.509		94.716	
P-6	—	0.837	17.566	65.246		83.649	
S-6	—	—	8.351	12.017		20.368	
P-7	—	—	9.227	13.841		23.068	
S-7	—	—	17.935	41.047		58.982	
P-8	—	—	3.650	26.754		30.404	
S-8	—	1.168	11.685	45.570		58.423	
P-9	—	—	36.000	28.286		64.286	
S-9	—	—	7.808	38.119		45.927	
		16.216	278.645	673.851		968.712	
		2	29	69			

[illegible] REPORT FOR [illegible]

MV CONQUISTADOR

YELLOWFIN

LLS	3LBS-UNDER	3-4 LBS	4-7.5 LBS	7.5-20LBS	20LBS-OVER	TOTAL	
P-1	—	—	—	—	—	—	—
S-1	—	—	—	—	—	—	—
P-2	—	—	1.705	14.492	26.426	42.623	
S-2	—	0.841	5.888	4.627	30.702	42.058	
P-3	—	—	2.708	2.709	48.756	54.173	
S-3	—	1.074	2.506	1.790	12.531	17.901	
P-4	—	—	—	—	—	—	
S-4	—	—	—	—	—	—	
P-5	—	0.250	4.663	3.081	0.333	8.327	
S-5	—	—	—	2.809	3.043	5.852	
P-6	—	—	2.435	3.044	6.697	12.176	
S-6	—	—	—	1.541	75.521	77.062	
P-7	—	—	—	6.631	40.736	47.367	
S-7	—	—	—	—	3.691	3.691	
P-8	—	—	—	—	31.472	31.472	
S-8	—	0.263	0.659	0.263	1.009	2.194	
P-9	—	—	—	—	—	—	
S-9	—	0.071	0.143	1.996	0.166	2.376	
		2.499	20.707	42.983	281.083	347.272	
		1	6	12	81		

TO: M. W. CALLAGHAN

VESSEL: PACIFIC PRINCESS

FR: FLEET OPERATIONS

DATE: 10/12/89

Begin Date: 10/7/89
End Date: 10/12/89

5 TH FINAL OUT-TURN

SIZE HATCH	SKIPJACK +7.5	SKIPJACK 4-7.5	SKIPJACK 3-4	SKIPJACK -3	SKIPJACK TOTAL	YELLOWFIN +20	YELLOWFIN 7.5-20	YELLOWFIN 4-7.5	YELLOWFIN 3-4	YELLOWFIN -3	YELLOWFIN TOTAL
P-01						74.26900					74.269
P-02	28.44580	3.47620			31.922		8.38394	1.95506			10.339
P-03	23.69130	5.95670			29.648	21.01374	10.08960	4.01967			35.123
P-04	12.70120	3.97930	1.79890	0.19860	18.678	17.55315	35.10631	2.20554			54.865
P-05	1.60580	0.28620			1.892	75.23000					75.230
P-06	52.47270	5.89170	1.43660		59.801	26.32123	7.86984	0.19650	0.08843		34.476
P-07	38.98500	7.09920	0.46400	0.05080	46.599	31.17785	11.22835	0.31880			42.725
P-08						52.71300					52.713
P-09											
P-10											
P-11											
P-12											
S-01											
S-02						40.97100					40.971
S-03	11.80210	3.79490			15.597	36.72585	9.03215				45.758
S-04	0.06490	2.10830	1.40380	0.05500	3.632	60.71906	3.56164	0.80930			65.090
S-05	27.38200	6.37090	0.09060	0.07550	33.919	41.01000					41.010
S-06	18.34840	5.36530	2.73350	0.17580	26.623	48.85033	11.92767				60.778
S-07	39.18080	0.24870	0.07250		39.502	45.52802	0.14198				45.670
S-08						55.96769	0.06131				56.029
S-09											
S-10											
S-11											
S-12											
TOTAL	254.68000	44.57740	7.99990	0.55570	307.81300	628.04991	97.40279	9.50487	0.08843		735.04600
PERCENT	82.74%	14.48%	2.60%	0.18%	100.00%	85.44%	13.25%	1.29%	0.01%		100.00%

NOV 0 8 89

NOV 0 8 89

SAMOA PACKING COMPANY
FISH SIZING REPORT
BOAT NAME: SEA GEM
UNLOADING DATES: 10/12/89 '10/19/89

Date Printed: 25-Oct-89

WL	SPECIE	SIZE	UNLOADED TONS	COOKED REJECTS	CLEANED REJECTS	NET TONS
WL	SPE					
B1?	SJ	0-3#	0.0000	0.0000	0.0000	0.0000
		3-4#	0.0000	0.0000	0.0000	0.0000
		4-7.5#	0.0000	0.0000	0.0000	0.0000
		7.5-20#	0.0000	0.0000	0.0000	0.0000
		TOTAL	0.0000	0.0000	0.0000	0.0000
WL	SPE					
B2?	SJ	0-3#	0.0000	0.0000	0.0000	0.0000
		3-4#	0.0000	0.0000	0.0000	0.0000
		4-7.5#	0.0000	0.0000	0.0000	0.0000
		7.5-20#	0.0000	0.0000	0.0000	0.0000
		TOTAL	0.0000	0.0000	0.0000	0.0000
WL	SPE					
L1?	SJ	0-3#	0.0000	0.0000	0.0000	0.0000
		3-4#	0.0000	0.0000	0.0000	0.0000
		4-7.5#	0.0000	0.0000	0.0000	0.0000
		7.5-20#	0.0000	0.0000	0.0000	0.0000
		TOTAL	0.0000	0.0000	0.0000	0.0000
WL	SPE					
1?	SJ	0-3#	0.0000	0.0000	0.0000	0.0000
		3-4#	0.0000	0.0000	0.0000	0.0000
H-1		4-7.5#	5.2868	0.0000	0.0000	5.2868
		7.5-20#	0.7432	0.0000	0.0000	0.7432
		TOTAL	6.0300	0.0000	0.0000	6.0300
WL	SPE					
L2?	SJ	0-3#	0.0000	0.0000	0.0000	0.0000
		3-4#	0.0000	0.0000	0.0000	0.0000
		4-7.5#	6.0444	0.0000	0.0000	6.0444
		7.5-20#	4.4616	0.0000	0.0000	4.4616
		TOTAL	10.5060	0.0000	0.0000	10.5060

WL	SPECIE	SIZE	UNLOADED TONS	COOKED REJECTS	CLEANED REJECTS	NET TONS
WL	SPE					
B1?	YF	0-3#	0.0000	0.0000	0.0000	0.0000
		3-4#	0.0000	0.0000	0.0000	0.0000
		4-7.5#	0.0000	0.0000	0.0000	0.0000
		7.5-20#	0.0000	0.0000	0.0000	0.0000
		20-60#	0.0000	0.0000	0.0000	0.0000
		60#-UP	0.0000	0.0000	0.0000	0.0000
		TOTAL	0.0000	0.0000	0.0000	0.0000
WL	SPE					
B2?	YF	0-3#	0.0000	0.0000	0.0000	0.0000
		3-4#	0.0000	0.0000	0.0000	0.0000
		4-7.5#	0.0000	0.0000	0.0000	0.0000
		7.5-20#	0.0000	0.0000	0.0000	0.0000
		20-60#	0.0000	0.0000	0.0000	0.0000
		60#-UP	0.0000	0.0000	0.0000	0.0000
		TOTAL	0.0000	0.0000	0.0000	0.0000
WL	SPE					
L1?	YF	0-3#	0.0000	0.0000	0.0000	0.0000
		3-4#	0.0000	0.0000	0.0000	0.0000
		4-7.5#	0.0000	0.0000	0.0000	0.0000
		7.5-20#	0.0000	0.0000	0.0000	0.0000
		20-60#	0.0000	0.0000	0.0000	0.0000
		60#-UP	0.0000	0.0000	0.0000	0.0000
		TOTAL	0.0000	0.0000	0.0000	0.0000
WL	SPE					
1?	YF	0-3#	0.0000	0.0000	0.0000	0.0000
		3-4#	0.0000	0.0000	0.0000	0.0000
H-1		4-7.5#	0.0747	0.0000	0.0000	0.0747
		7.5-20#	2.1203	0.0000	0.0000	2.1203
		20-60#	86.0040	0.0000	0.0000	86.0040
		60#-UP	0.0000	0.0000	0.0000	0.0000
		TOTAL	88.1990	0.0000	0.0000	88.1990
WL	SPE					
L2?	YF	0-3#	0.0000	0.0000	0.0000	0.0000
		3-4#	0.0000	0.0000	0.0000	0.0000
		4-7.5#	2.0325	0.0000	0.0000	2.0325
		7.5-20#	8.2311	0.0000	0.0000	8.2311
		20-60#	30.7385	0.0000	0.0000	30.7385
		60#-UP	0.0000	0.0000	0.0000	0.0000
		TOTAL	41.0020	0.0000	0.0000	41.0020

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SAMOA PACKING COMPANY
FISH SIZING REPORT
BOAT NAME: SEA GEM
UNLOADING DATES: 10/12/89 '10/19/89

Date Printed: 25-Oct-89

WL	SPECIE	SIZE	UNLOADED TONS	COOKED REJECTS	CLEANED REJECTS	NET TONS
WL	SPE					
R2?	SJ	0-3#	0.0000	0.0000	0.0000	0.0000
		3-4#	0.0000	0.0000	0.0000	0.0000
		4-7.5#	16.9391	0.0000	0.0000	16.9391
		7.5-20#	13.9129	0.0000	0.0000	13.9129
		TOTAL	30.8520	0.0000	0.0000	30.8520
WL	SPE					
L3?	SJ	0-3#	0.0000	0.0000	0.0000	0.0000
		3-4#	0.0000	0.0000	0.0000	0.0000
		4-7.5#	4.4950	0.0000	0.0000	4.4950
		7.5-20#	13.6150	0.0000	0.0000	13.6150
		TOTAL	18.1100	0.0000	0.0000	18.1100
WL	SPE					
?	SJ	0-3#	0.0000	0.0000	0.0000	0.0000
		3-4#	0.0000	0.0000	0.0000	0.0000
		4-7.5#	7.8098	0.0000	0.0000	7.8098
		7.5-20#	9.0882	0.0000	0.0000	9.0882
		TOTAL	16.8980	0.0000	0.0000	16.8980
WL	SPE					
L4?	SJ	0-3#	0.0000	0.0000	0.0000	0.0000
		3-4#	0.0000	0.0000	0.0000	0.0000
		4-7.5#	0.0000	0.0000	0.0000	0.0000
		7.5-20#	54.0580	0.0000	0.0000	54.0580
		TOTAL	54.0580	0.0000	0.0000	54.0580
WL	SPE					
R4?	SJ	0-3#	0.0000	0.0000	0.0000	0.0000
		3-4#	0.0000	0.0000	0.0000	0.0000
		4-7.5#	0.0000	0.0000	0.0000	0.0000
		7.5-20#	30.4690	0.0000	0.0000	30.4690
		TOTAL	30.4690	0.0000	0.0000	30.4690

WL	SPECIE	SIZE	UNLOADED TONS	COOKED REJECTS	CLEANED REJECTS	NET TONS
WL	SPE					
R2?	YF	0-3#	0.0000	0.0000	0.0000	0.0000
		3-4#	0.0000	0.0000	0.0000	0.0000
		4-7.5#	5.1123	0.0000	0.0000	5.1123
		7.5-20#	7.9395	0.0000	0.0000	7.9395
		20-60#	6.0662	0.0000	0.0000	6.0662
		60#-UP	0.6321	0.0000	0.0000	0.6321
		TOTAL	19.7500	0.0000	0.0000	19.7500
WL	SPE					
L3?	YF	0-3#	0.0000	0.0000	0.0000	0.0000
		3-4#	0.0000	0.0000	0.0000	0.0000
		4-7.5#	2.2271	0.0000	0.0000	2.2271
		7.5-20#	10.0859	0.0000	0.0000	10.0859
		20-60#	28.2930	0.0000	0.0000	28.2930
		60#-UP	0.0000	0.0000	0.0000	0.0000
		TOTAL	40.6060	0.0000	0.0000	40.6060
WL	SPE					
R3?	YF	0-3#	0.0000	0.0000	0.0000	0.0000
		3-4#	0.0000	0.0000	0.0000	0.0000
		4-7.5#	0.4116	0.0000	0.0000	0.4116
		7.5-20#	4.8914	0.0000	0.0000	4.8914
		20-60#	37.2910	0.0000	0.0000	37.2910
		60#-UP	0.0000	0.0000	0.0000	0.0000
		TOTAL	42.5940	0.0000	0.0000	42.5940
WL	SPE					
L4?	YF	0-3#	0.0000	0.0000	0.0000	0.0000
		3-4#	0.0000	0.0000	0.0000	0.0000
		4-7.5#	0.0000	0.0000	0.0000	0.0000
		7.5-20#	0.0000	0.0000	0.0000	0.0000
		20-60#	2.3940	0.0000	0.0000	2.3940
		60#-UP	0.0000	0.0000	0.0000	0.0000
		TOTAL	2.3940	0.0000	0.0000	2.3940
WL	SPE					
R4?	YF	0-3#	0.0000	0.0000	0.0000	0.0000
		3-4#	0.0000	0.0000	0.0000	0.0000
		4-7.5#	0.0000	0.0000	0.0000	0.0000
		7.5-20#	0.0000	0.0000	0.0000	0.0000
		20-60#	28.2600	0.0000	0.0000	28.2600
		60#-UP	0.0000	0.0000	0.0000	0.0000
		TOTAL	28.2600	0.0000	0.0000	28.2600

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SAMOA PACKING COMPANY
FISH SIZING REPORT
BOAT NAME: SEA GEM
UNLOADING DATES: 10/12/89 10/19/89

Date Printed: 25-Oct-89

WL	SPECIE	SIZE	UNLOADED TONS	COOKED REJECTS	CLEANED REJECTS	NET TONS
WL	SPE					
L5?	SJ	0-3#	0.0000	0.0000	0.0000	0.0000
		3-4#	0.0000	0.0000	0.0000	0.0000
		4-7.5#	7.1112	0.0000	0.0000	7.1112
		7.5-20#	16.6158	0.0000	0.0000	16.6158
		TOTAL	23.7270	0.0000	0.0000	23.7270
WL	SPE					
R5?	SJ	0-3#	0.0000	0.0000	0.0000	0.0000
		3-4#	0.0000	0.0000	0.0000	0.0000
		4-7.5#	45.3110	0.0000	0.0000	45.3110
		7.5-20#	0.0000	0.0000	0.0000	0.0000
		TOTAL	45.3110	0.0000	0.0000	45.3110
WL	SPE					
??	SJ	0-3#	0.0000	0.0000	0.0000	0.0000
		3-4#	0.0000	0.0000	0.0000	0.0000
		4-7.5#	7.2328	0.0000	0.0000	7.2328
		7.5-20#	1.9512	0.0000	0.0000	1.9512
		TOTAL	9.1840	0.0000	0.0000	9.1840
WL	SPE					
R6?	SJ	0-3#	0.0000	0.0000	0.0000	0.0000
		3-4#	0.0000	0.0000	0.0000	0.0000
		4-7.5#	7.3999	0.0000	0.0000	7.3999
		7.5-20#	2.9561	0.0000	0.0000	2.9561
		TOTAL	10.3560	0.0000	0.0000	10.3560
WL	SPE					
L7?	SJ	0-3#	0.0000	0.0000	0.0000	0.0000
		3-4#	0.0000	0.0000	0.0000	0.0000
		4-7.5#	0.0000	0.0000	0.0000	0.0000
		7.5-20#	0.0000	0.0000	0.0000	0.0000
		TOTAL	0.0000	0.0000	0.0000	0.0000

WL	SPECIE	SIZE	UNLOADED TONS	COOKED REJECTS	CLEANED REJECTS	NET TONS
WL	SPE					
L5?	YF	0-3#	0.0000	0.0000	0.0000	0.0000
		3-4#	0.0000	0.0000	0.0000	0.0000
		4-7.5#	0.5917	0.0000	0.0000	0.5917
		7.5-20#	24.7360	0.0000	0.0000	24.7360
		20-60#	17.8493	0.0000	0.0000	17.8493
		60#-UP	0.0000	0.0000	0.0000	0.0000
		TOTAL	43.1770	0.0000	0.0000	43.1770
WL	SPE					
R5?	YF	0-3#	0.0000	0.0000	0.0000	0.0000
		3-4#	0.0000	0.0000	0.0000	0.0000
		4-7.5#	0.1244	0.0000	0.0000	0.1244
		7.5-20#	7.2226	0.0000	0.0000	7.2226
		20-60#	6.9040	0.0000	0.0000	6.9040
		60#-UP	0.0000	0.0000	0.0000	0.0000
		TOTAL	14.2510	0.0000	0.0000	14.2510
WL	SPE					
L6?	YF	0-3#	0.0000	0.0000	0.0000	0.0000
		3-4#	0.0000	0.0000	0.0000	0.0000
		4-7.5#	0.0000	0.0000	0.0000	0.0000
		7.5-20#	0.0000	0.0000	0.0000	0.0000
		20-60#	56.3760	0.0000	0.0000	56.3760
		60#-UP	0.0000	0.0000	0.0000	0.0000
		TOTAL	56.3760	0.0000	0.0000	56.3760
WL	SPE					
R6?	YF	0-3#	0.0000	0.0000	0.0000	0.0000
		3-4#	0.0000	0.0000	0.0000	0.0000
		4-7.5#	0.0976	0.0000	0.0000	0.0976
		7.5-20#	3.8814	0.0000	0.0000	3.8814
		20-60#	53.2040	0.0000	0.0000	53.2040
		60#-UP	0.0000	0.0000	0.0000	0.0000
		TOTAL	57.1830	0.0000	0.0000	57.1830
WL	SPE					
L7?	YF	0-3#	0.0000	0.0000	0.0000	0.0000
		3-4#	0.0000	0.0000	0.0000	0.0000
		4-7.5#	0.0000	0.0000	0.0000	0.0000
		7.5-20#	0.0000	0.0000	0.0000	0.0000
		20-60#	59.0490	0.0000	0.0000	59.0490
		60#-UP	0.0000	0.0000	0.0000	0.0000
		TOTAL	59.0490	0.0000	0.0000	59.0490

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SAMOA PACKING COMPANY
FISH SIZING REPORT
BOAT NAME: SEA GEM
UNLOADING DATES: 10/12/89 '10/19/89

Date Printed: 25-Oct-89

WL	SPECIE	SIZE	UNLOADED TONS	COOKED REJECTS	CLEANED REJECTS	NET TONS
WL	SPE					
R7?	SJ	0-3#	0.0000	0.0000	0.0000	0.0000
		3-4#	0.0000	0.0000	0.0000	0.0000
		4-7.5#	0.0000	0.0000	0.0000	0.0000
		7.5-20#	0.0000	0.0000	0.0000	0.0000
		TOTAL	0.0000	0.0000	0.0000	0.0000
WL	SPE					
L8?	SJ	0-3#	0.0000	0.0000	0.0000	0.0000
		3-4#	0.0000	0.0000	0.0000	0.0000
		4-7.5#	1.2731	0.0000	0.0000	1.2731
		7.5-20#	17.4599	0.0000	0.0000	17.4599
		TOTAL	18.7330	0.0000	0.0000	18.7330
WL	SPE					
R8?	SJ	0-3#	0.0000	0.0000	0.0000	0.0000
		3-4#	0.0000	0.0000	0.0000	0.0000
		4-7.5#	0.4588	0.0000	0.0000	0.4588
		7.5-20#	23.9942	0.0000	0.0000	23.9942
		TOTAL	24.4530	0.0000	0.0000	24.4530
WL	SPE					
L9?	SJ	0-3#	0.0000	0.0000	0.0000	0.0000
		3-4#	0.0000	0.0000	0.0000	0.0000
		4-7.5#	21.0836	0.0000	0.0000	21.0836
		7.5-20#	13.2964	0.0000	0.0000	13.2964
		TOTAL	34.3800	0.0000	0.0000	34.3800
WL	SPE					
R9?	SJ	0-3#	0.0000	0.0000	0.0000	0.0000
		3-4#	0.0000	0.0000	0.0000	0.0000
		4-7.5#	2.1310	0.0000	0.0000	2.1310
		7.5-20#	42.3100	0.0000	0.0000	42.3100
		TOTAL	44.4410	0.0000	0.0000	44.4410

WL	SPECIE	SIZE	UNLOADED TONS	COOKED REJECTS	CLEANED REJECTS	NET TONS
WL	SPE					
R7?	YF	0-3#	0.0000	0.0000	0.0000	0.0000
		3-4#	0.0000	0.0000	0.0000	0.0000
		4-7.5#	0.0000	0.0000	0.0000	0.0000
		7.5-20#	0.0000	0.0000	0.0000	0.0000
		20-60#	14.1910	0.0000	0.0000	14.1910
		60#-UP	0.0000	0.0000	0.0000	0.0000
		TOTAL	14.1910	0.0000	0.0000	14.1910
WL	SPE					
L8?	YF	0-3#	0.0000	0.0000	0.0000	0.0000
		3-4#	0.0000	0.0000	0.0000	0.0000
		4-7.5#	0.0000	0.0000	0.0000	0.0000
		7.5-20#	0.0000	0.0000	0.0000	0.0000
		20-60#	45.7560	0.0000	0.0000	45.7560
		60#-UP	0.0000	0.0000	0.0000	0.0000
		TOTAL	45.7560	0.0000	0.0000	45.7560
WL	SPE					
R8?	YF	0-3#	0.0000	0.0000	0.0000	0.0000
		3-4#	0.0000	0.0000	0.0000	0.0000
		4-7.5#	0.0000	0.0000	0.0000	0.0000
		7.5-20#	0.0000	0.0000	0.0000	0.0000
		20-60#	34.8230	0.0000	0.0000	34.8230
		60#-UP	0.0000	0.0000	0.0000	0.0000
		TOTAL	34.8230	0.0000	0.0000	34.8230
WL	SPE					
L9?	YF	0-3#	0.0000	0.0000	0.0000	0.0000
		3-4#	0.0000	0.0000	0.0000	0.0000
		4-7.5#	3.3656	0.0000	0.0000	3.3656
		7.5-20#	9.8184	0.0000	0.0000	9.8184
		20-60#	19.2120	0.0000	0.0000	19.2120
		60#-UP	0.0000	0.0000	0.0000	0.0000
		TOTAL	32.3960	0.0000	0.0000	32.3960
WL	SPE					
R9?	YF	0-3#	0.0000	0.0000	0.0000	0.0000
		3-4#	0.0000	0.0000	0.0000	0.0000
		4-7.5#	0.0000	0.0000	0.0000	0.0000
		7.5-20#	0.0000	0.0000	0.0000	0.0000
		20-60#	13.4960	0.0000	0.0000	13.4960
		60#-UP	0.0000	0.0000	0.0000	0.0000
		TOTAL	13.4960	0.0000	0.0000	13.4960

SAMOA PACKING COMPANY
FISH SIZING REPORT
BOAT NAME: SEA GEM
UNLOADING DATES: 10/12/89 10/19/89

Date Printed: 25-Oct-89

WL	SPECIE	SIZE	UNLOADED TONS	COOKED REJECTS	CLEANED REJECTS	NET TONS
WL	SPE					
L10	SJ	0-3#	0.0000	0.0000	0.0000	0.0000
		3-4#	0.0000	0.0000	0.0000	0.0000
		4-7.5#	6.2117	0.0000	0.0000	6.2117
		7.5-20#	20.9683	0.0000	0.0000	20.9683
		TOTAL	27.1800	0.0000	0.0000	27.1800
WL	SPE					
R10	SJ	0-3#	0.0000	0.0000	0.0000	0.0000
		3-4#	0.0000	0.0000	0.0000	0.0000
		4-7.5#	0.2991	0.0000	0.0000	0.2991
		7.5-20#	13.8139	0.0000	0.0000	13.8139
		TOTAL	14.1130	0.0000	0.0000	14.1130
WL	SPE					
L11	SJ	0-3#	0.0000	0.0000	0.0000	0.0000
		3-4#	0.0000	0.0000	0.0000	0.0000
		4-7.5#	0.0000	0.0000	0.0000	0.0000
		7.5-20#	0.0000	0.0000	0.0000	0.0000
		TOTAL	0.0000	0.0000	0.0000	0.0000
WL	SPE					
R11	SJ	0-3#	0.0000	0.0000	0.0000	0.0000
		3-4#	0.0000	0.0000	0.0000	0.0000
		4-7.5#	0.0000	0.0000	0.0000	0.0000
		7.5-20#	0.0000	0.0000	0.0000	0.0000
		TOTAL	0.0000	0.0000	0.0000	0.0000
WL	SPE					
L12	SJ	0-3#	0.0000	0.0000	0.0000	0.0000
		3-4#	0.0000	0.0000	0.0000	0.0000
		4-7.5#	0.0000	0.0000	0.0000	0.0000
		7.5-20#	0.0000	0.0000	0.0000	0.0000
		TOTAL	0.0000	0.0000	0.0000	0.0000

WL	SPECIE	SIZE	UNLOADED TONS	COOKED REJECTS	CLEANED REJECTS	NET TONS
WL	SPE					
L10	YF	0-3#	0.0000	0.0000	0.0000	0.0000
		3-4#	0.0000	0.0000	0.0000	0.0000
		4-7.5#	1.2578	0.0000	0.0000	1.2578
		7.5-20#	8.3573	0.0000	0.0000	8.3573
		20-60#	0.2329	0.0000	0.0000	0.2329
		60#-UP	0.0000	0.0000	0.0000	0.0000
		TOTAL	9.8480	0.0000	0.0000	9.8480
WL	SPE					
R10	YF	0-3#	0.0000	0.0000	0.0000	0.0000
		3-4#	0.0000	0.0000	0.0000	0.0000
		4-7.5#	0.0000	0.0000	0.0000	0.0000
		7.5-20#	17.5787	0.0000	0.0000	17.5787
		20-60#	13.2153	0.0000	0.0000	13.2153
		60#-UP	0.0000	0.0000	0.0000	0.0000
		TOTAL	30.7940	0.0000	0.0000	30.7940
WL	SPE					
L11	YF	0-3#	0.0000	0.0000	0.0000	0.0000
		3-4#	0.0000	0.0000	0.0000	0.0000
		4-7.5#	0.0000	0.0000	0.0000	0.0000
		7.5-20#	0.0000	0.0000	0.0000	0.0000
		20-60#	0.0000	0.0000	0.0000	0.0000
		60#-UP	0.0000	0.0000	0.0000	0.0000
		TOTAL	0.0000	0.0000	0.0000	0.0000
WL	SPE					
R11	YF	0-3#	0.0000	0.0000	0.0000	0.0000
		3-4#	0.0000	0.0000	0.0000	0.0000
		4-7.5#	0.0000	0.0000	0.0000	0.0000
		7.5-20#	0.0000	0.0000	0.0000	0.0000
		20-60#	0.0000	0.0000	0.0000	0.0000
		60#-UP	0.0000	0.0000	0.0000	0.0000
		TOTAL	0.0000	0.0000	0.0000	0.0000
WL	SPE					
L12	YF	0-3#	0.0000	0.0000	0.0000	0.0000
		3-4#	0.0000	0.0000	0.0000	0.0000
		4-7.5#	0.0000	0.0000	0.0000	0.0000
		7.5-20#	0.0000	0.0000	0.0000	0.0000
		20-60#	0.0000	0.0000	0.0000	0.0000
		60#-UP	0.0000	0.0000	0.0000	0.0000
		TOTAL	0.0000	0.0000	0.0000	0.0000

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FISH SIZING REPORT

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WL	SPECIE	SIZE	UNLOADED TONS	COOKED REJECTS	CLEANED REJECTS	NET TONS
WL	SPE					
R12	SJ	0-3#	0.0000	0.0000	0.0000	0.0000
		3-4#	0.0000	0.0000	0.0000	0.0000
		4-7.5#	0.0000	0.0000	0.0000	0.0000
		7.5-20#	0.0000	0.0000	0.0000	0.0000
		TOTAL	0.0000	0.0000	0.0000	0.0000

WL	SPECIE	SIZE	UNLOADED TONS	COOKED REJECTS	CLEANED REJECTS	NET TONS
WL	SPE					
R12	YF	0-3#	0.0000	0.0000	0.0000	0.0000
		3-4#	0.0000	0.0000	0.0000	0.0000
		4-7.5#	0.0000	0.0000	0.0000	0.0000
		7.5-20#	0.0000	0.0000	0.0000	0.0000
		20-60#	0.0000	0.0000	0.0000	0.0000
		60#-UP	0.0000	0.0000	0.0000	0.0000
		TOTAL	0.0000	0.0000	0.0000	0.0000

TOTALS FROM WELLS

SPE				
SJ	0-3#	0.0000	0.0000	0.0000	0.0000
	3-4#	0.0000	0.0000	0.0000	0.0000
	4-7.5#	139.0873	0.0000	0.0000	139.0873
	7.5-20#	279.7137	0.0000	0.0000	279.7137
	TOTAL	418.8010	0.0000	0.0000	418.8010

TOTALS FROM WELLS

SPE				
YF	0-3#	0.0000	0.0000	0.0000	0.0000
	3-4#	0.0000	0.0000	0.0000	0.0000
	4-7.5#	15.2952	0.0000	0.0000	15.2952
	7.5-20#	104.8626	0.0000	0.0000	104.8626
	20-60#	553.3551	0.0000	0.0000	553.3551
	60#-UP	0.6321	0.0000	0.0000	0.6321
	TOTAL	674.1450	0.0000	0.0000	674.1450
	SJ & YF	1092.9460	0.0000	0.0000	1092.9460

TOTALS FROM INPUT

SPE				
SJ	0-3#	0.0000	0.0000	0.0000	0.0000
	3-4#	0.0000	0.0000	0.0000	0.0000
	4-7.5#	139.0873	0.0000	0.0000	139.0873
	7.5-20#	279.7137	0.0000	0.0000	279.7137
	TOTAL	418.8010	0.0000	0.0000	418.8010

*** INPUT & WELL TOTALS MUST MATCH! ***

TOTALS FROM INPUT

SPE				
YF	0-3#	0.0000	0.0000	0.0000	0.0000
	3-4#	0.0000	0.0000	0.0000	0.0000
	4-7.5#	15.2952	0.0000	0.0000	15.2952
	7.5-20#	104.8626	0.0000	0.0000	104.8626
	20-60#	553.3551	0.0000	0.0000	553.3551
	60#-UP	0.6321	0.0000	0.0000	0.6321
	TOTAL	674.1450	0.0000	0.0000	674.1450
	SJ & YF	1092.9460	0.0000	0.0000	1092.9460

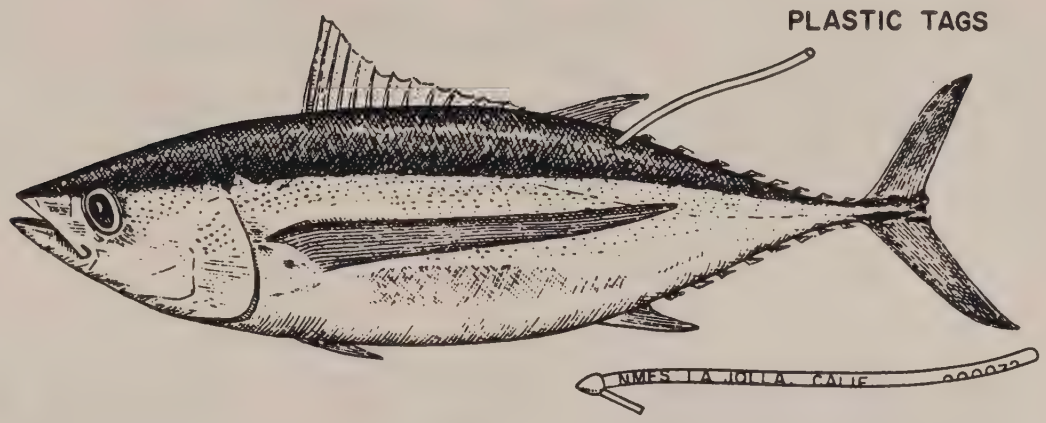
*** INPUT & WELL TOTALS MUST MATCH! ***

APPENDIX I.

Examples of Tag Posters from tagging programs in the Pacific Ocean. Information on these posters are useful for determining the disposition of collected tags.

$ REWARD $

FOR ALBACORE TUNA TAGS



YELLOW TAGS

THE NATIONAL MARINE FISHERIES SERVICE WILL PAY $2.00 AND GIVE A BASEBALL CAP WITH SPECIAL ALBACORE TAGGING LOGO FOR EACH YELLOW TAG RECOVERED. (NO NEED TO RETURN FISH)

FORWARD TO NMFS ADDRESS ON TAG

RED TAGS

THE NATIONAL MARINE FISHERIES SERVICE WILL PURCHASE THE FISH AT THE CANNERY PRICE AND PAY A REWARD OF $50.00 FOR EACH RED TAG AND FISH RETURNED. (FISH WITH TAG INTACT MUST BE RETURNED)

NOTIFY NMFS P.O. BOX 271, LA JOLLA, CALIFORNIA
TELEPHONE (619) 546-7083

TO COLLECT REWARD FOR YELLOW OR RED TAGS YOU MUST

RECORD →
- → WHERE
- → WHEN
- → HOW

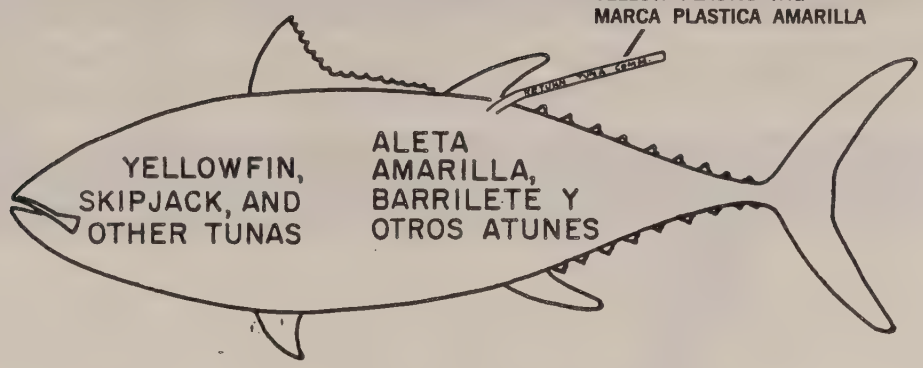
} FISH WAS CAUGHT

- → LENGTH OF FISH (TIP OF LOWER JAW TO FORK OF TAIL)

THE AMERICAN FISHERMEN'S RESEARCH FOUNDATION WILL AWARD CASH PRIZES FOR YELLOW AND RED TAG NUMBERS DRAWN IN AN ANNUAL LOTTERY.

$REWARDS$ FOR TAGGED FISH

$RECOMPENSAS$ POR PECES MARCADOS



FOR EACH TAG RETURNED

(SOME FISH HAVE MORE THAN ONE TAG.)

$2

POR LA DEVOLUCION DE CADA MARCA

(ALGUNOS PECES TIENEN MAS DE UNA MARCA).

IN PRIZES (At the end of each year a drawing will be held for the awarding of 3 prizes, ranging from $100 to $600. Each tag returned entitles the finder to one chance to win the drawing.)

$1000 TOTAL

EN PREMIOS (A fines de cada año se celebrará una rifa para adjudicar 3 premios, desde $100 hasta $ 600. Cada marca devuelta le da una oportunidad al que la encontró de ganar la rifa).

WRITE

WHEN
WHERE
BY WHICH BOAT } **FISH WAS CAUGHT**
LENGTH OF FISH (tip of lower jaw to fork of tail)

ESCRIBA

CUANDO
DONDE
EN QUE EMBARCACION } **EL PEZ FUE CAPTURADO**
LONGITUD DEL PEZ (desde la punta de la mandíbula hasta la horquilla de la cola)

Return the tags with the fish, if possible, to Tuna Commission representatives in San Diego, Terminal Island, Ensenada, Mayaguez, Ponce, Panama, Manta, or Coishco, or mail the tags and information to:

INTER-AMERICAN TROPICAL TUNA COMMISSION
Scripps Institution of Oceanography
La Jolla, California 92037
Telephone (714) 453-2820

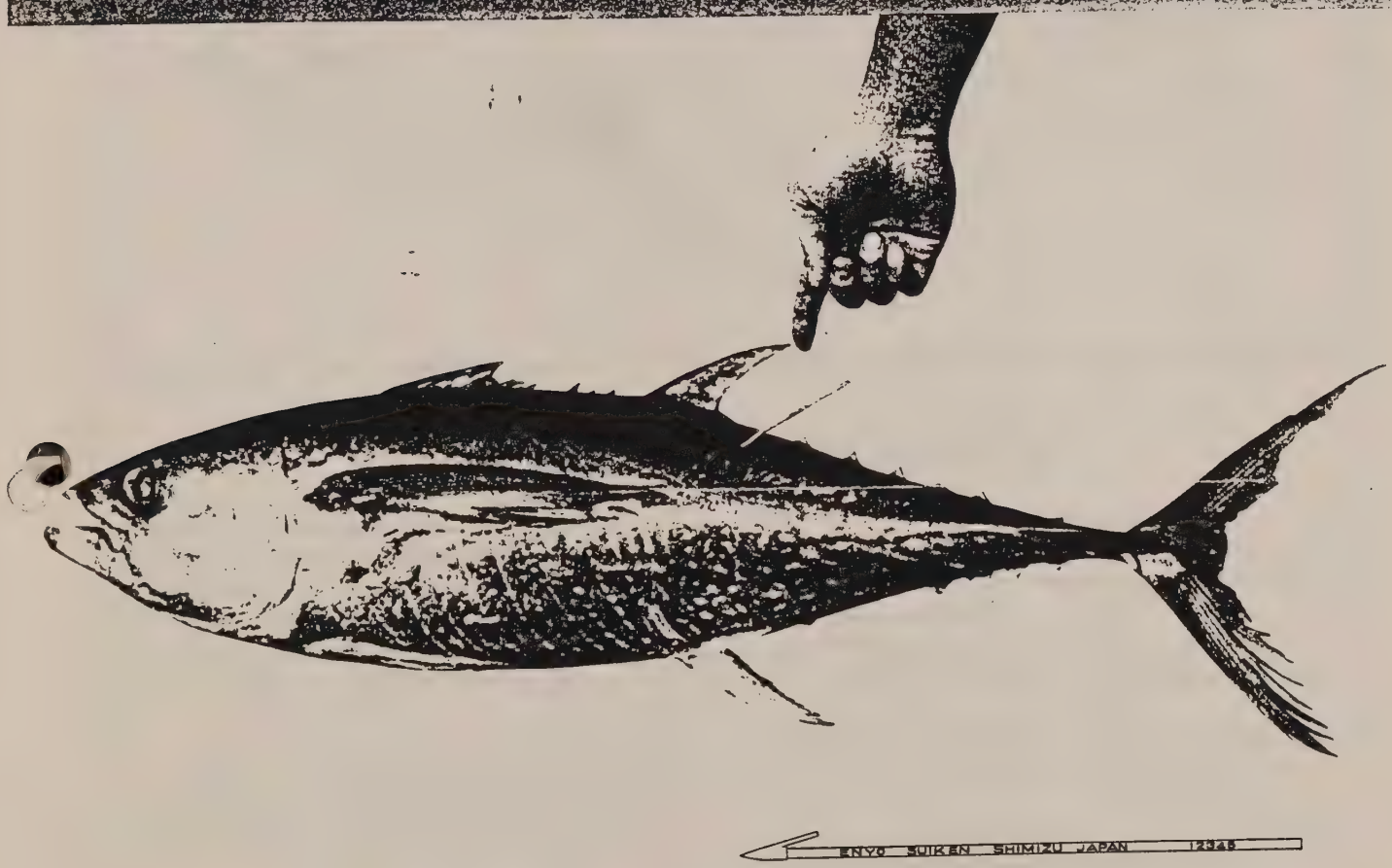
or/o

Devuelva las marcas con el pez, si es posible, a los representantes de la Comisión del Atún en San Diego, Terminal Island, Ensenada, Mayaguez, Ponce, Panamá, Manta o Coishco, o envíe las marcas e información a:

INTER-AMERICAN TROPICAL TUNA COMMISSION
700 Tuna Street
Terminal Island, California 90731
Teléfono (213) 832-4977

TUNA TAGGING PROGRAM

COOPERATION IS NEEDED



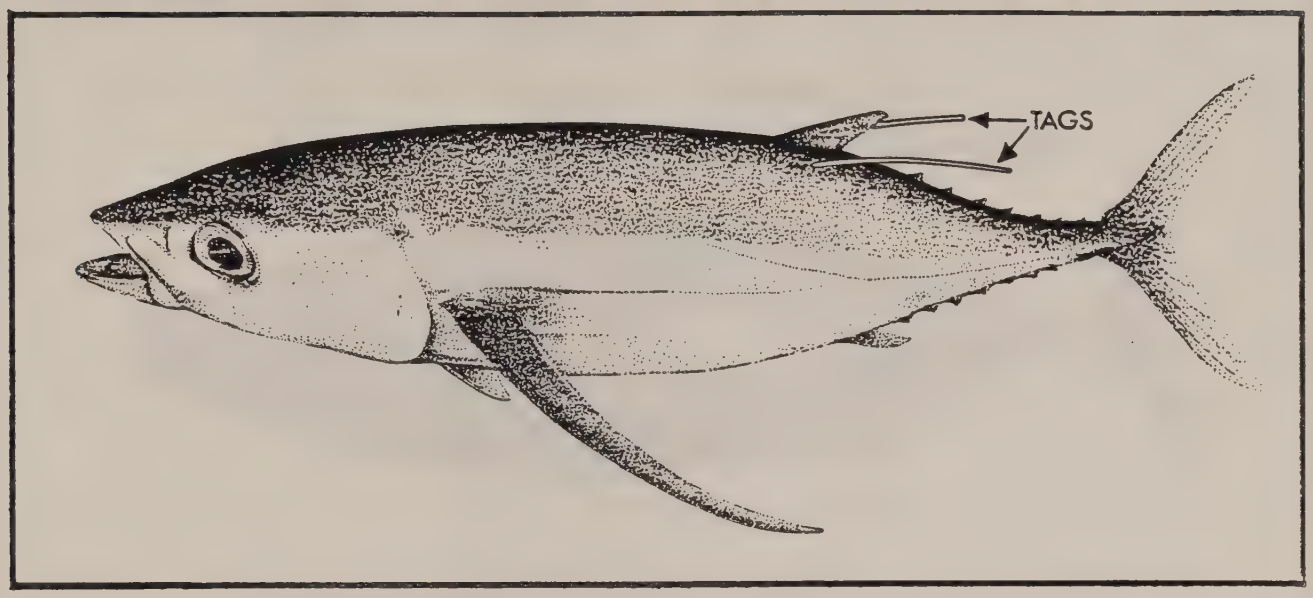
Please RETURN the tag recoverd with information on
DATE, LOCALITY, SPECIES, (FORK) LENGTH or WEIGHT, TAG NUMBER,
and THE NAME AND ADDRESS OF THE DISCOVERER.

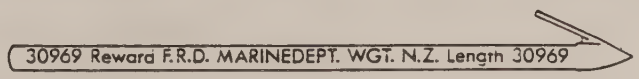
A small remembrance is sent to the discoverer.

REPORT to:

FAR SEAS FISHERIES RESEARCH LABORATORY
1000, ORIDO, SHIMIZU 424, JAPAN.

NEW ZEALAND ALBACORE TAGGING





The Fisheries Research Division is tagging albacore tuna in the New Zealand region as part of a programme to gather information on growth, abundance and migration and dispersal in the South Pacific Ocean. Each fish will carry one or two yellow plastic tags, bearing the lettering as shown above.

In a preliminary exercise we have used tags from the Commonwealth Scientific and Industrial Research Organisation. These bear the following legend:

REWARD C.S.I.R.O. CRONULLA
AUST. LENGTH 00000

REWARD

A reward of 50c (N.Z.) will be paid on receipt of either type of tag and the following information:

Tag number
Date and place of capture
Fish length (from tip of snout to fork of tail)

Your cooperation is sought in returning the tag and the above information to:

The Director
Fisheries Research Division
P. O. Box 19062
Wellington, New Zealand

SKIPJACK TAGGING

標識カツオを見つけて下さい

Skipjack and Yellowfin are being tagged in Pacific Ocean

Please Report:

- Name and Address of the finder
- Date and Place of catch
- Tag number, Length and Weight of fish

The release data and T-shirt will be presented to the finder.

標識をつけたカツオ・キハダを西部太平洋で放流しました。見つけた方は●住所、氏名、●再捕年月日、位置、●標識番号と体長、体重を最寄りの水産試験場、又は下記にお知らせ下さい。
放流データーと記念品として、Tシャツを差し上げます。

Fisheries Agency
Tohoku Regional Fisheries Research Laboratory
Shinhamacho 3-27-5 Miyagi Pref., Japan 985

水産庁
東北区水産研究所
〒985 宮城県塩釜市新浜町三丁目27-5
TEL (02236) 5-1191

TAGGED FISH

표지어

TUNAS AND BILLFISHES ARE BEING TAGGED IN PACIFIC, ATLANTIC, AND INDIAN OCEAN.

Please return the TAG recovered with informations in FISHING DATE, LOCALITY, LENGTH and NAME AND ADDRESS of the discoverer. A small remembrance is sent to the discoverer.

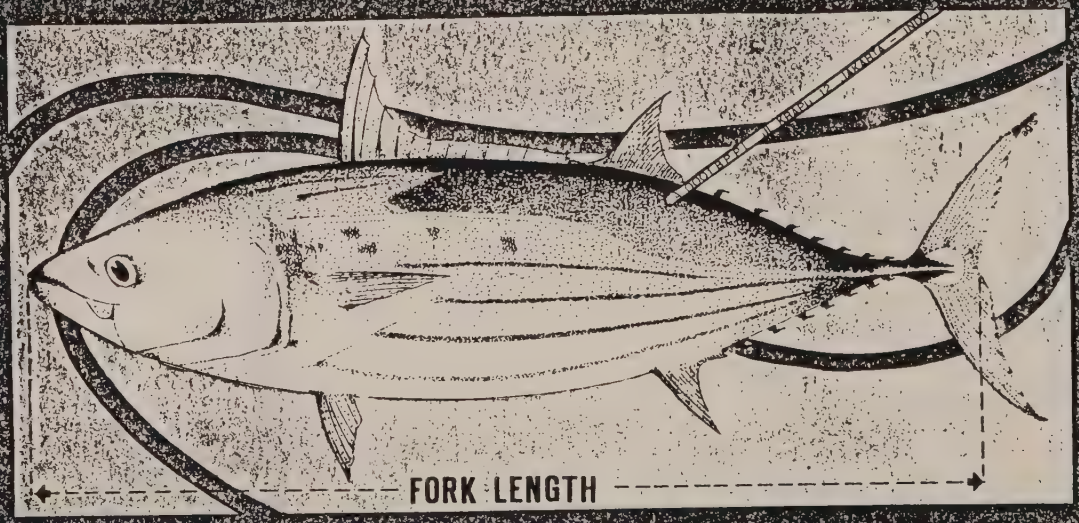
태평양, 대서양 및 인도양에서 다랑이류와 새치류를 표지방류합니다. 표지가 붙은 고기를 어획하였을때는 어획장소, 날짜, 고기의 크기(미차장) 및 발견자의 주소, 성명을 기입하여 표지표와 함께 아래 주소로 보내주시면 사례품을 드립니다.

Report to FISHERIES RESEARCH & DEVELOPMENT AGENCY
2Ga Namhang-Dong Yeongdo. Busan, KOREA

보 고 처 대한민국국립수산진흥원
부산시 영도구 남항동 2가 16번지

PENANDAAN IKAN
SKIPJACK & TUNA TAGGING

RESEARCH INSTITUTE FOR MARINE FISHERIES
JAKARTA INDONESIA



KEMBALIKAN (REWARD)

BALAI PENELITIAN PERIKANAN LAUT (B.P.P.L) JAKARTA TELAH MELAKSANAKAN PENANDAAN IKAN CAKALANG DAN IKAN TUNA DI PERAIRAN INDONESIA TIMUR MENGGUNAKAN TAG BERWARNA KUNING. JIKA SAUDARA MENANGKAP IKAN CAKALANG ATAU IKAN TUNA DENGAN TANDA TAG TERSEBUT DI PUNGGUNGNYA HARAP KIRIMKAN TAG DAN KETERANGAN DIBAWAH INI KEALAMAT

RESEARCH INSTITUTE FOR MARINE FISHERIES (RIMF) JAKARTA HAS COMMENCED TAGGING SKIPJACK AND OTHER TUNAS IN THE EASTERN INDONESIAN WATERS. SHOULD YOU CATCH A SKIPJACK OR TUNA WITH A TAG (S) ON ITS BACK, PLEASE RETURN THE TAG (S) WITH THE INFORMATION SHOWN BELOW TO

B.P.P.L JL KRAPU No. 12 JAKARTA UTARA - INDONESIA

DAN KEPADA PENEMU AKAN DIBERI HADIAH T SHIRT DAN HANDUK

HARAP DILAPORKAN :

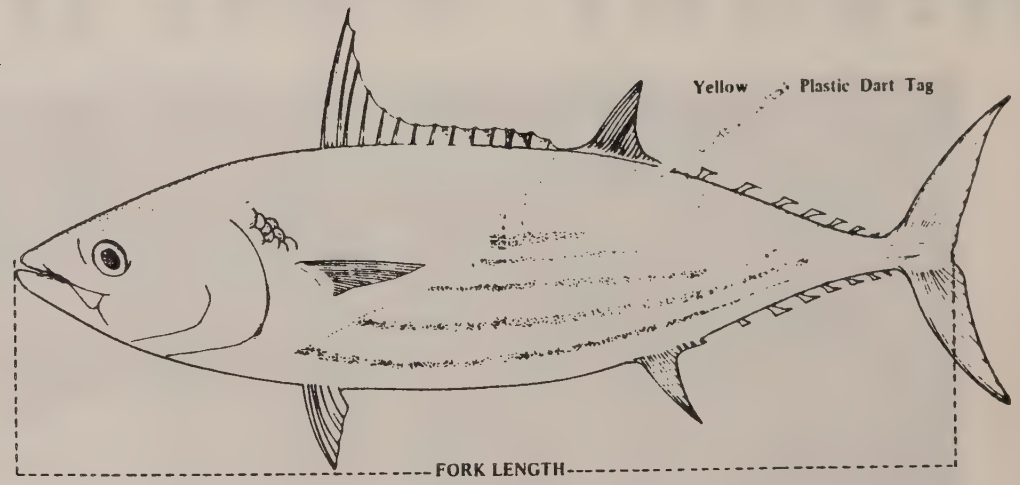
- NAMA DAN ALAMAT PENEMU
- TANGGAL IKAN DITANGKAP
- LOKASI PENANGKAPAN (LINTANG & BUJUR)
- PANJANG FORK LENGTH DAN (BERAT) IKAN

T SHIRT AND TOWEL WILL BE PRESENTED TO THE FINDER

PLEASE REPORT :

- NAME AND ADDRESS OF THE FINDER
- THE DATE THAT FISH WAS CAUGHT
- THE PLACE WHERE FISH WAS CAUGHT (LAT & LONG)
- THE FORK LENGTH AND THE (WEIGHT)

SKIPJACK TAGGING



SOUTH PACIFIC COMMISSION SPC

Please report:

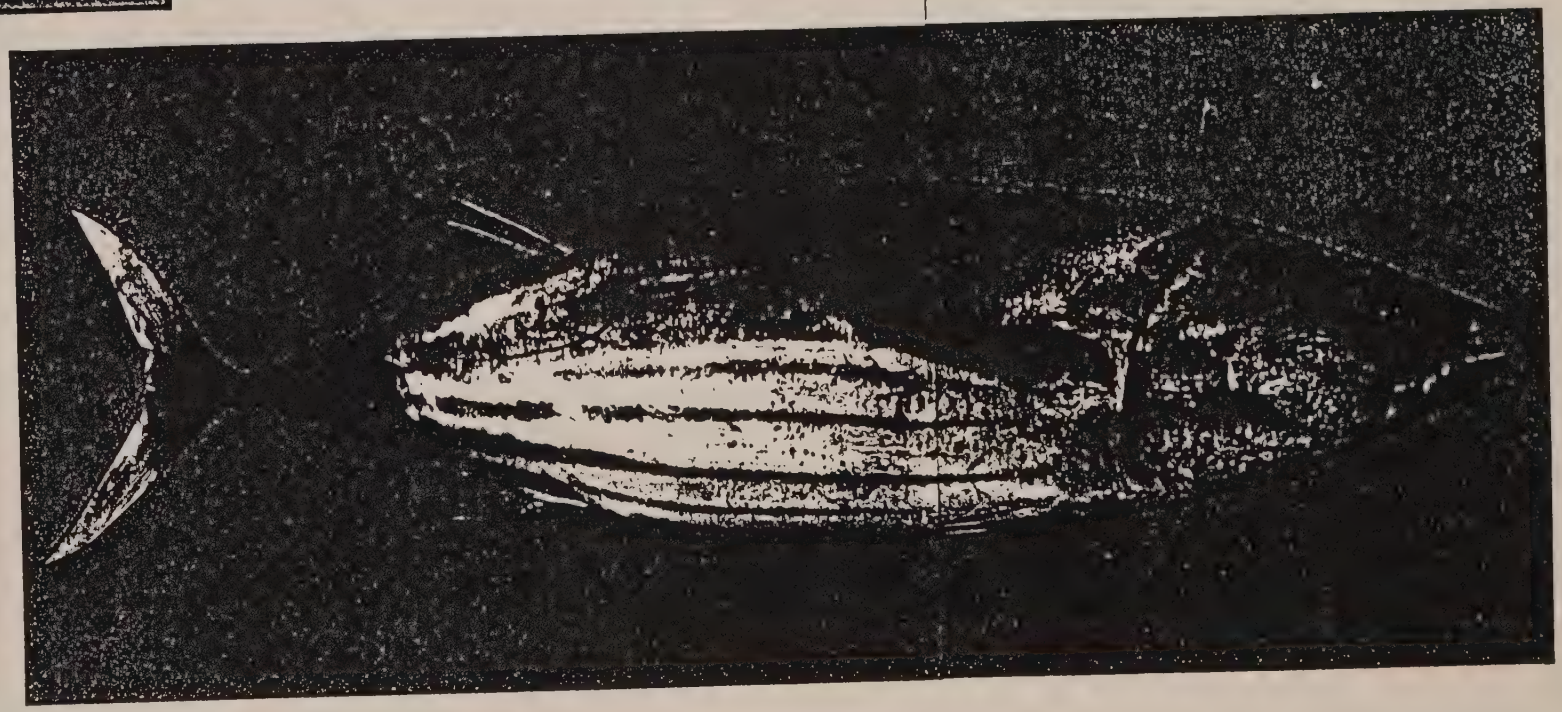
1. The date that fish was caught
2. The place where fish was caught
3. The FORK length

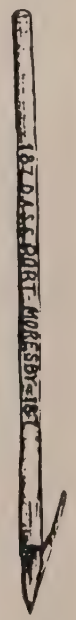
A reward will be given for the Tag plus this information

The South Pacific Commission has commenced tagging Skipjack and other Tunas in the tropical Central and Western Pacific. Yellow Plastic Dart Tags are being used. Should you catch a Skipjack or Tuna with a Tag (or Tags) on its back, please return the Tag(s) to:

South Pacific Commission
B.P. D5
Noumea, New Caledonia

PAPUA NEW GUINEA
SKIPJACK TAGGING





TAG

Commencing July, 1971, 10,000 tagged skipjack ("Katsuwonus pelamis") will be released in New Guinea waters. All tags returned will yield valuable information on growth and migration patterns of this species.

Each fish will carry one or two tags (as shown above), bearing the following lettering.

D.A.S.F. PORT MORESBY

Each tag also carries a specific number in duplicate

REWARD:

Fifty cents (Aust.) will be paid on receipt of the tag and the following information.

If a tagged fish is caught, please record:

(a) The number on the tag/tags
(b) Date of Capture
(c) Place of Capture
(d) Fish length (from tip of snout to fork of tail)
(e) Type of gear used (i.e. pole, longline, etc.)

Your co-operation is sought in returning the above information and tags (if possible) to the following address-

THE DIRECTOR
D.A.S.F.
KONEDOBU
PAPUA NEW GUINEA

PRODUCED BY Govt. Print.—P11'73/1,000

APPENDIX J.

An example of a completed Tag Recovery Record.

TAG RECOVERY RECORD

Finder: RINALDO CHIGLEOTTY

Vessel: SEA KING Gear: PS

Area of Recapture: NE 20 miles of New Zealand Date of Recapture: 22 / 08 / 88 (Day Mo. Yr.)

Tag Number: M0001864 (Y) R (color) Well: P7

Species: YFT Date Found: 30 / 09 / 88 (Day Mo. Yr.)

Length/Weight: 564 mm 4.1 kilos (F) S City Found: PAGO PAGO SAMOA

Place Found: IN WELL DURING UNLOADING

Samples Collected otoliths [ ] Spines [ ]

Date Sampled: / / stomach [ ]

Fish Number [ ]

Place Mailed: SPC, NOUMEA Date Mailed: 02 / 10 / 88 (Day Mo. Yr.)

Reward Paid: $2 US Date Paid: 01 / 10 / 88 (Day Mo. Yr.)

Comments & Notes: Signature: A. P. Coan Jr.

APPENDIX K.

An example of a partially completed Monthly Summary of Tags and Reward Payments.

MONTHLY SUMMARY OF TAGS AND REWARD PAYMENTS

For Month of OCTOBER

Tag No.			Reward Accounting				
Yellow tag	Red Tag (without fish)	Red tag (with fish)	REWARD PAYMENT DELAYED OR WITHHELD (EXPLAIN)	Reward given by this office			Tag sent to
				For fish ($16)	For tag ($4)	T-shirt ( )	
M0001864					$2		SPC, Noumea
	H007462		No Funds for this Agency				FSERL, Japan
K000673					$4		IATTC, U.S.A.
F001674					$4		" "
J007651					$2		NMFS, Honolulu
		J0086741		$50			NMFS, Honolulu
			MONTHLY TOTAL	$50	$12		

APPENDIX L.

Forms used in sampling of purse seiners fishing in the South Pacific under the South Pacific Regional Tuna Treaty.

1. Purse Seine Vessel Catch Report Form

2. Logbook Abstracting Form

3. Length-Frequency Sampling Status Board

4. Vessel Length-Frequency Sampling Plan

5. Length-Frequency Sampling Form

6. Plastic Sampling Sheet

7. Species Composition Form

8. Purse Seine Unloading Logsheet

9. Tag Recovery Record

10. Monthly Summary of Tags and Reward Payments

MULTILATERAL TREATY ON FISHERIES BETWEEN PACIFIC ISLAND STATES AND THE

PURSE SEINE VESSEL— CATCH REPORT FORM *THIS FORM MUST BE COMPLETED IN INK IN THE ENGLISH LANGUAGE*

Vessel name:	Call sign:	License/permit no.:	Departure From I
Country of registration:	Registration no.:	Name of Master:	Arrival at Port- Na
Gross registered tonnage: / Helicopter make and no.:	Vessel trip no.:	Vessel Masters Signature:	No. of Crew:

DAY	NOON OR SET POSITION				School type (code)	SET NO.	TIME SET	SKIPJACK		YELLOWFIN		BIGEYE		OTHER SPECIES			WELL NO.	COMMENTS (code)
	LAT		LONG															
	DDMM	N S	DDDMM	E W				CATCH (st)	AVE. SIZE (lb)	CATCH (st)	AVE. SIZE (lb)	CATCH (st)	AVE. SIZE (lb)	SPECIES NAME	CATCH (st)	AVE. SIZE (lb)		

NUMERICAL EXPRESSION OF SCHOOL TYPE, COMMENTS, REASONS FOR DISCARD AND DETAILS OF TRANSSHIPMENT AT SEA, TRANSFER AND RECEIPT OF FISH.

SCHOOL TYPE (use code #)

1. Log
2. Foamer
3. Breezer
4. Whale
5. Porpoise
6. Raft
7. Other (Specify)
8. Boiler
9. Jumper

COMMENTS (use code #)

1. A full day in transit between fishing grounds to or from fishing grounds.
2. A full day not fishing due to breakdown.
3. A full day not fishing due to bad weather.
4. A full day searching for fish but no sets made.
5. Part of day searching for fish but no sets made.
6. Set unsuccessful for any reason, e.g. fish dive, roll up.
7. Transshipping at sea (fill in details →).
8. Entering port. (Enter name)
9. Departing port. (Enter name)
10. Receiving/Transfer fish (Fill in details →)
11. Water Haul Set.

REASON FOR DISCARD (use code #)

1. Undesirable species.
2. Fish too small.
3. Vessel completely loaded.
4. Other reason- please specify:_____

TRANSSHIPMENT

Position (Lat/Long):_____

To Vessel/Carrier Name: _____

Date:_____

Catch Unloaded: (short tons)			
Skipjack	Yellowfin	Bigeye	Well No.

(Destination of transshipped catch:): _____

TR

(A

(B

MULTILATERAL TREATY ON FISHERIES BETWEEN PACIF

PURSE SEINE TRANSSHIPMENT AND OTHER UNLOADING LOGSHEET

(Separate form to be completed for each transshipment/unloading and each processing destination)

TRIP NO: _____ TRIP START DATE: _____

VESSEL NAME: _____ RADIO CALL SIGN: _____

(1) PORT: _____

OR POSITION: LAT: _____ LONG: _____

(2) DATES:

(a) AT UNLOADING POINT: ARRIVAL: _____ DEPARTURE: _____

(b) AT UNLOADING: START: _____ END: _____

(3) PARTIAL OR COMPLETE UNLOADING: _____

(4) UNLOADING TO:

(a) CARRIER VESSEL NAME: _____

and RADIO CALL SIGN OR REGIONAL REGISTER NO: _____

or (b) NAME AND ADDRESS OF COMPANY ACCEPTING FISH: _____

_____

(5) DESTINATION OF FISH: _____

FISH TO BE PROCESSED AT: _____

(6) QUANTITY UNLOADED:

	YELLOWFIN	SKIPJACK	BIGEYE	MARLIN	OTHER	UNIT OF MEASUREMENT
ACCEPTED:						
REJECTED:						
TRANSSHIPPED:						

(7) SIGNATURES:

_____ _____

VESSEL MASTER RECEIVING AGENT

NB: An attachment to this form should include a signed copy of the size breakdown of catch as provided by the cannery.

PAGE NUMBER ______

VESSEL NAME
FISHING CAPTAIN
NAVIGATOR

IATTC NO. _ _ _ _
TRIP NO. _ _ _ _ _ _
YEAR & MONTH OF TRIP START _ _ _ _
TABULATION CODE _
REGULATION STATUS _ _
CAPTAIN CODE _ _ _ _

ABSTRACTED BY _ _ _
AT _ _ _ _ _ _ _ _ _ _ _ _
DATE OF ABSTRACT _ _ _ _ _ _ _ _
WIND SCALE ___
WEIGHT SCALE ____

DATE	LOCATION	SCHOOL		SET TIME		CATCH					WIND		PLANE USE	WATER TEMP.	NON SET TIME	WELLS	COMMENT CODE AND OTHER INFORMATION
		TYPE	SPECIES	START	FINISH	YF	YF & SJ	SJ	OTHER	OTHER SPECIES	DIR.	FORCE					

LENGTH - FREQUENCY SAMPLING STATUS BOARD

MONTH		AREA STRATUM														
		I			II			III			IV			V		
		YFT/SKJ/BET			YFT/SKJ/BET			YFT/SKJ/BET			YFT/SKJ/BET			YFT/SKJ/BET		
January	Catch															
	# Samples															
February	Catch															
	# Samples															
March	Catch															
	# Samples															
April	Catch															
	# Samples															
May	Catch															
	# Samples															
June	Catch															
	# Samples															
July	Catch															
	# Samples															
August	Catch															
	# Samples															
September	Catch															
	# Samples															
October	Catch															
	# Samples															
November	Catch															
	# Samples															
December	Catch															
	# Samples															

VESSEL LENGTH-FREQUENCY SAMPLING PLAN

VESSEL NAME _____ GEAR _____

FORM NO. _____ DATE _____ CANNERY _____

NAME OF FISHING CAPTAIN _____ NAVIGATOR _____

HAILED TONNAGE _____

INFORMATION FOR SAMPLES TO BE TAKEN

DATE UNLOADED	CAPTURE DATE	AREA	WELL NO.	YELLOWFIN TONS	SAMPLE TAKEN LF/SC		SKIPJACK TONS	SAMPLE TAKEN LF/SC		OTHER SPECIES	SAMPLE TAKEN LF/SC	

SIZE SORTING INFORMATION				REMARKS
WELL NO.	TONS	SPECIES	SIZE SORT PERCENTAGE(S)	

LENGTH FREQUENCY SAMPLING FORM

1. VESSEL: _____ 2. RANDOM / SELECT 3. SPECIES: _____ 4. SAMPLE NO.: _____

5. TRANSSHIPMENT: _____ 6. HOLD / WELL / SET: _____ 7. OCEAN: _____

8. DATE: _____ 9. MEASURED BY: _____ 10. TIME: _____

11. TONNAGE: TOTAL _____ YF _____ SJ _____ OTHERS _____

25		66		107		148	
26		67		108		149	
27		68		109		150	
28		69		110		151	
29		70		111		152	
30		71		112		153	
31		72		113		154	
32		73		114		155	
33		74		115		156	
34		75		116		157	
35		76		117		158	
36		77		118		159	
37		78		119		160	
38		79		120		161	
39		80		121		162	
40		81		122		163	
41		82		123		164	
42		83		124		165	
43		84		125		166	
44		85		126		167	
45		86		127		168	
46		87		128		169	
47		88		129		170	
48		89		130		171	
49		90		131		172	
50		91		132		173	
51		92		133		174	
52		93		134		175	
53		94		135		176	
54		95		136		177	
55		96		137		178	
56		97		138		179	
57		98		139		180	
58		99		140		181	
59		100		141		182	
60		101		142		183	
61		102		143		184	
62		103		144		185	
63		104		145		186	
64		105		146		187	
65		106		147		188	

12. TOTAL NO.: _____ 13. PREDORSAL / FORK LENGTH

14. COMMENTS: _____

SPECIES COMPOSITION

Reporter: _____ Species: _____ Sample #: _____

Date: _____ Reported from: _____

Catcher Vessel: _____ Gear: _____

Flag: _____ Date of catch: _____ Area: _____

Transshipment Vessel: _____

Hatch/Well/Set: _____ Sort Type: _____

Unloading Weight (S/T): _____ Size Code: _____

Total: _____ YF: _____ SJ: _____

Other: _____

Species	Number of Fish	Freq. Sample Number	Biolo. Sample Number
Yellowfin			
Skipjack			
Bigeye			
Albacore			
Bluefin			
Blk. Skipjack			
Others			
UNK.(YE/BE)			
Total			

Comments: _____

LF0002

PURSE SEINE UNLOADING LOGSHEET

VESSEL NAME _____ RADIO CALL SIGN OR REGIONAL REGISTER NO. _____

(1) PORT _____

OR, IF AT SEA, POSITION: LAT. _____ LONG. _____

(2) DATES

(a) AT UNLOADING POINT

ARRIVAL _____ DEPARTURE _____

(b) AT UNLOADING

COMMENCEMENT _____ COMPLETION _____

(3) PARTIAL OR COMPLETE UNLOADING _____

(4) UNLOADING TO _____

(5) (a) CARRIER VESSEL NAME _____

and RADIO CALL SIGN OR REGIONAL REGISTER NO. _____

or

(b) NAME AND ADDRESS OF COMPANY ACCEPTING FISH _____

_____

(6) DESTINATION OF FISH _____

_____

(7) QUANTITY UNLOADED

	YELLOWFIN	SKIPJACK	BIGEYE	MARLIN	OTHER	UNIT OF MEASUREMENT
ACCEPTED	_____	_____	_____	_____	_____	_____
REJECTED	_____	_____	_____	_____	_____	_____

SIGNATURES

_____ _____

VESSEL MASTER RECEIVING AGENT

TAG RECOVERY RECORD

Finder _____

Vessel _____ Gear _____

Area of Recapture _____ Date of Recapture ___/___/___
Day Mo. Yr.

Tag Number _____ Y R Well _____
color

Species _____ Date Found ___/___/___
Day Mo. Yr.

Length/Weight _____ City Found _____
F S

Place Found _____

Samples Collected otoliths ☐ Spines ☐

Date Sampled ___/___/___ stomach ☐

Fish Number ☐

Place Mailed _____ Date Mailed ___/___/___
Day Mo. Yr.

Reward Paid _____ Date Paid ___/___/___
Day Mo. Yr.

Comments & Notes: Signature _____

MONTHLY SUMMARY OF TAGS AND REWARD PAYMENTS

For Month of _____

Tag No.			Reward Accounting				
Yellow tag	Red Tag (without fish)	Red tag (with fish)	REWARD PAYMENT DELAYED OR WITHHELD (EXPLAIN)	Reward given by this office			Tag sent to
				For fish ($16)	For tag ($4)	T-shirt ( )	
			MONTHLY TOTAL				